

**U. S. DEPARTMENT OF COMMERCE
RADIO DIVISION**

RADIO SERVICE BULLETIN

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ABBREVIATIONS AND SYMBOLS

The necessary corrections to the list of Commercial and Government Radio Stations of the United States and to the International Lists of Radio Stations, appearing in this bulletin under the heading "Alterations and Corrections," are published after the stations affected in the following order:

- Name = Name of station.
 Loc. = Geographical location. W=west longitude. N=north latitude. S=south latitude. E=east longitude.
 Call = Call signal (letters) assigned.
 Type = Type of wave classified as follows: A1=continuous wave (tube), A, arc=continuous wave, A2=interrupted continuous wave, A3=phone, B=spark.
 Fy. = Frequency in kilocycles; normal frequency in italics; wave length in meters in parentheses.
 Service = Nature of service maintained: PG=general public (ship to shore), PR=limited public (limited to public correspondence between fixed stations), P=private (limited commercial and special), O=Government business exclusively.
 Class = FX=fixed station (point-to-point service), RG=radio-compass station, FA= aeronautical station, AB=aviation beacon, RF=circular radiobeacon, B=ship station, FC=coast station.
 Hour = Hours of operation: N=continuous service, X=no regular hour, Y=sunrise to sunset.
 Accounts = Message accounts settled by.
 I. R. T. Co. = Intercity Radio Telegraph Co.
 M. R. T. Co. = Mackay Radio & Telegraph Co.
 R. C. A. = Radio Corporation of America.
 R. M. C. A. = Radiomarine Corporation of America.
 T. R. T. Co. = Tropical Radio Telegraph Co.
 C. w. = Continuous wave.
 I. c. w. = Interrupted continuous wave.
 A. c. = Alternating current.
 V. t. = Vacuum tube.
 M. a. = Meters-amperes.
 U. S. L. = Applies only to the list of Commercial and Government Radio Stations of the United States.
 Δ = Equipped with a radio compass (direction finder).

NEW STATIONS

Commercial land stations, alphabetically, by names of stations

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne Bureau]

Station	Class	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
Flint, Mich. ¹ -----	FX	WPDF	2,416 (124.17)-----	P	X	City of Flint, police department.
Miami, Fla. (Dinner Key). ²	FA, FX	WGF.	3,070 (97.7), 5,690 (52.72), 12,210 (24.51).	P	X	New York, Rio & Buenos Aires Line (Inc.).
New York, N. Y. ³	FA, FX	WGE	do-----	P	X	Do.
St. Paul, Minn. ³ -----	FX	WPDS	2,416 (124.17)-----	P	X	City of St. Paul, Department of Public Safety.
San Juan, Porto Rico. ²	FA, FX	WGD	3,070 (97.7), 5,690 (52.72), 12,210 (24.51).	P	X	New York, Rio & Buenos Aires Line (Inc.).
Youngstown, Ohio ⁴ -----	FX	WPDG	2,416 (124.17)-----	P	X	City of Youngstown, police department.

¹ Type A3.² Type A1, A2, A3.³ Loc. 93° 09' 00" W., 44° 58' 00" N. (approximate); type A1, A3.⁴ Type A2, A3.

Commercial ship stations, alphabetically, by name of vessels

[Additions to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Ship Stations, published by the Berne Bureau]

Name of vessel	Call signal	Rates, all services (cents)	Service	Hours	Owner	Message accounts settled by—
Atlantic-----	KGMP				M. O. Medina	Owner.
Buffalo Bridge ¹ -----	KIZF	8	PG	X	Charles Nelson Co. (Inc.)	R. M. C. A.
Castle Town ¹ -----	WHCO	8	PG	X	do	Do.
Chester Sun-----	KGMV				Motor Tankship Corporation	
Chetopa ¹ -----	KDJI	8	PG	X	Charles Nelson Co. (Inc.)	Do.
City of Flint 32 ² -----	WDCI		PG	X	Pere Marquette Ry. Co.	
Comoco-----	KGMZ	8	PG	X	R. W. Judson	Do.
Dorothy ³ -----	KMIE	8	PG	X	A. H. Bull & Co. (Inc.)	
Elda-----	WQDS				Arthur V. Davis	
F. F. F-----	KGMU		P	X	Harry C. Fisher	Owner.
Fort Armstrong ¹ -----	KUKF	8	PG	X	Charles Nelson Co. (Inc.)	R. M. C. A.
Golden River ⁴ -----	KEPD	8	PG	X	Oceanic & Oriental Navigation Co.	Owner.
Grenadier-----	KGMY				Robert C. Roebing	
Hampden-----	WXUI	8	PG	X	Coastwise Transportation Corporation.	R. M. C. A.
Hartwelson ⁵ -----	WJDV	8	PG	X	Hartwelson S. S. Co.	Do.
Jimmie K-----	KGMW	8	PG	X	Wilmington Transportation Co.	Owner.
Lake Ormoc ⁶ -----	KVUA		PG	X	Ford Motor Co.	R. C. A.
Marsodak ¹ -----	WPBP	8	PG	X	Charles Nelson Co. (Inc.)	R. M. C. A.
Middlesex-----	KGGO	8	PG	X	Coastwise Transportation Corporation.	Do.
Nakhoda-----	KGMT				Fred J. Fisher	
Patria-----	KGMQ				Joe M. Medina	Owner.
Quick Silver II-----	KGMX				Albert E. Pierce	R. M. C. A.
Robert W. Wilmot ⁷ -----	KGMX	8	PG	X	New Orleans Coal & Bisco-Tow-boat Co.	Owner.
Shooters Island-----	KERG	8	PG	X	Am-Russ S. S. Corporation	R. M. C. A.
Suffolk-----	KGGN	8	PG	X	Coastwise Transportation Corporation.	Do.
Washington ⁸ -----	KGMR	8	PG	X	New England Fish Co.	Owner.

¹ Type B; fy., 375 (800), 425 (705), 454 (600), 500 (600).² Rates, Great Lakes service, 4 cents per word.³ Fy., 375 (800), 425 (705), 500 (600).⁴ Type B; fy., 375 (800), 425 (705), 500 (600); power, m/amp. 20/13.⁵ Type B; fy., 375 (800), 425 (705), 500 (600).⁶ Types A1 and A2; fy., 143 (2,100), 153 (1,980), 157 (1,910), 375 (800), 394 (760), 400 (750), 410 (730), 425 (705), 454 (660), 468 (640), 500 (600), 5,525 (54.3), 5,555 (54), 8,330 (36.01), 11,050 (27.15), 11,110 (27), 16,575 (18.099), 16,660 (18.007); rates, North and South American and transoceanic services, 8 cents per word, Great Lakes service, 4 cents per word.⁷ Type B; fy., 375 (800), 425 (705), 500 (600), power, m/amp. 70/6.⁸ Type B; fy., 425 (705), 500 (600); power, m/amp. 8/3.5.

Commercial land and ship stations, alphabetically, by call signals

Call signal	Name of station	Call signal	Name of station
KDJI	Chetopa.....b	KIZF	Buffalo Bridge.....b
KEPD	Golden River.....b	KMIE	Dorothy.....b
KERG	Shooters Island.....b	KUKF	Fort Armstrong.....b
KGGN	Suffolk.....b	KVUA	Lake Ormoc.....b
KGGO	Middlesex.....b	WDCI	City of Flint, 32.....b
KGMP	Atlantic.....b	WGD	San Juan, P. R.....fa, fx
KGMQ	Patria.....b	WGE	New York, N. Y.....fa, fx
KGMR	Washington.....b	WGF	Miami, Fla. (Dinner Key).....fa, fx
KGMS	Robert W. Wilmot.....b	WHCO	Castle Town.....b
KGMT	Nakhoda.....b	WJDV	Astoria.....b
KGMU	F. F. F.....b	WPBP	Marsodak.....b
KGMV	Chester Sun.....b	WPDF	Flint, Mich.....fx
KGMW	Jimmie K.....b	WPDG	Youngstown, Ohio.....fx
KGMX	Quick Silver II.....b	WPDS	St. Paul, Minn.....fx
KGMY	Grenadier.....b	WQDS	Elda.....b
KGMZ	Comoco.....b	WXUI	Hampden.....b

Commercial aircraft stations, alphabetically, by names of craft

[Additions to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations published by the Berne bureau]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
Defender	KHIDW	1,640 (182.9), 3,106 (96.58), 5,570 (53.86).	P	X	Goodyear Tire & Rubber Co. (Inc.), Akron, Ohio.
NC-106N	KHIEV	-----	-----	-----	Southern Radio Corporation.
NC-8413	KHDZA	-----	-----	-----	TAT-Maddux Air Lines.
NC-9638	KHDVE	-----	-----	-----	Do.
NC-9639	KHDWD	-----	-----	-----	Do.
NC-9640	KHDXC	-----	-----	-----	Do.
NC-9641	KHDYB	-----	-----	-----	Do.
NC-9686	KHDUF	-----	-----	-----	Do.
New York	KHKLO	-----	-----	-----	New York, Rio & Buenos Aires Line (Inc.).

¹ Type, A1, A3.

Commercial aircraft stations, alphabetically, by call signals

Call signal	Name of station	Call signal	Name of station	Call signal	Name of station
KHDUF	NC-9638.	KHDXC	NC-9640.	KHIDW	Defender.
KHDVE	NC-9638.	KHDYB	NC-9641.	KHIEV	NC-106N.
KHDWD	NC-9639.	KHDZA	NC-8413.	KHKLO	New York.

Broadcasting stations, alphabetically, by names of States and cities

[Additions to the List of Radio Stations of the United States, edition of June 30, 1929]

State and city	Call signal	Frequency in kilocycles, meters in parentheses	Power (watts)
Missouri: Grant City.....	KGIZ	1,500 (200).....	50
Virginia: Danville.....	WBTM	1,370 (219).....	100
Lynchburg.....	WLVA	1,370 (219).....	100

Broadcasting stations, alphabetically, by call signals

Call signal	Location of transmitter (mail address)	Owner	Frequency in kilocycles, meters in parentheses	Power (watts)
KGIZ	Grant City, Mo.	Grant City Park Corporation	1,500 (200)	50
WBTM	Danville, Va., 545 Main St.	Clarke Electric Co.	1,370 (219)	100
WLVA	Lynchburg, Va., 211 Wall Building.	Edward A. & Phillip P. Allen	1,370 (219)	100

Government land stations, alphabetically, by name of station

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations published by the Berne bureau]

Station	Class	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
David National Airport, David, R. P.	FA, FX	NEB		O		U. S. Navy.
Panama City National Airport, Panama, R. P.	FA, FX	NHC		O		Do.
Pope Field (Fort Bragg), N. C.	FA	WZAA	200 (1,500), 219 (1,370).	O	Y	U. S. Army.
South Manchester, Conn. (third district reserve unit).	FX	NDF		O	X	U. S. Navy.

¹ Type, A1, A2, A3.

Government ship stations, alphabetically, by name of stations

[Addition to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations published by the Berne bureau]

Station	Call signal	Frequency in kilocycles, meters in parentheses	Service	Hours	Owner
Oceanographer ¹	NEDF	375 (500), 400 (750), 425 (705), 468 (640), 500 (600).	O	X	Department of Commerce, Coast and Geodetic Survey.

¹ Type, A2.

Government land and ship stations, alphabetically, by call signals

Call signal	Name of station	Call signal	Name of station
NDF	South Manchester, Conn., (third district reserve unit).....fc	NEDF	Oceanographer.....b
NEB	David National Airport, David, R. P.fa, fx	NEC	Panama City National Airport, Panama, R. P.fa, fx
		WZAA	Pope Field (Fort Bragg), N. C.fa

Airway radiobeacon stations

[Additions to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations published by the Berne bureau]

Station and geographical location	Frequency and type for emission	Power (height of aerial and intensity of current at base)	Characteristic signal	Hours
Bellefonte, Pa.: 77° 43' 00" W., 40° 54' 00" N. (approximate).	A2-303 (990)	-----	N and A (— and —) N. and NW. quadrants have a characteristic starting with a dash.	N.
Cicero (Chicago), Ill.: 87° 45' 00" W., 41° 47' 00" N. (approximate).	A2-350 (855)	-----	do.	N.
Cleveland, Ohio: 81° 51' 00" W., 41° 24' 00" N. (approximate).	A2-344 (870)	-----	do.	N.
Des Moines, Iowa: 93° 30' 00" W., 41° 39' 00" N. (approximate).	A2-306 (980)	-----	do.	In accordance with regular flying schedules and upon request.
Goshen, Ind.: 85° 49' 00" W., 41° 32' 00" N. (approximate).	A2-321 (935)	-----	do.	N (operates in conjunction with weather broadcasts of Bryan, Ohio).
Key West, Fla.: 81° 47' 00" W., 24° 32' 00" N. (approximate).	A2-286 (1,050)	-----	do.	Operates upon request only.
Sterling, Ill.	A2-327 (915)	-----	do.	In accordance with regular flying schedules and upon request (operates in conjunction with weather broadcasts of Iowa City, Iowa).

ALTERATIONS AND CORRECTIONS

COMMERCIAL LAND STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne bureau]

- AKRON, N. Y.**—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
- BASCO, P. I., Radio (Batanes).**—Hours, ship service 40 to 50 minutes of each from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
- BANTANGAS, P. I., Radio (Bantangas).**—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
- BELLE ISLE, MICH.**—Read Detroit (Belle Isle), Mich.; loc. (approximate) 82° 59' 00" W., 42° 20' 00"; type, strike out A1.
- BRUNSWICK, OHIO (WNCB).**—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
- CEBU, P. I. (KTL).**—Fy., add 5,465 (54.89), 5,475 (54.79), 5,485 (54.69), 5,495 (54.59), 8,930 (33.59).
- CEBU, P. I., Radio.**—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
- CEIBA, P. R., Radio.**—Hours, 8 to 11 a. m., 1 to 5 and 6.30 to 7.30 p. m.
- COLUMBUS, OHIO (WNCM).**—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).

- DAVAO, P. I., Radio (Mindanao).**—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
DAYTON, OHIO.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
GUAM, GUAM, Radio.—Type, strike out A3; fy., strike out 7,445 (40.30), 14,890 (20.15), 16,575 (18.10), 18,820 (15.94), 22,660 (13.239); add 6,515 (46.05), 11,080 (27.08), 11,140 (26.93), 11,200 (26.79), 16,580 (18.094), 22,100 (13.575), 22,160 (13.538).
HONOLULU, HAWAII (KGS).—Read Honolulu (Kaena Point), Hawaii; loc. 158° 16' 36" W., 21° 34' 36" N.; fy., strike out 7,437.5 (40.34), 14,875 (20.175), 22,660 (13.239); add 22,700 (13.216).
HONOLULU, HAWAII, Radio (KYG).—Loc. 158° 16' 36" W., 21° 34' 36" N.; type, add A3; fy., add 4,116 (72.886), 6,515 (46.05), 11,020 (27.22), 11,080 (27.08), 11,140 (26.93).
ILOILO, P. I. (KTJ).—Fy., 3,355 (56.02), 5,365 (55.91), 7,400 (40.54), 7,415 (40.46).
ILOILO, P. I., Radio.—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
LEGASPI, P. I., Radio.—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m.
MANILA, P. I., Radio (KAA).—Fy., strike out 187.5 (1,600), add 125 (2,400), 187 (1,605).
MANILA, P. I. (KAX).—Fy., add 19,980 (15.015).
MANILA, P. I. (KAY).—Fy., 14,980 (20.03).
MANILA, P. I. (KAZ).—Fy., add 9,990 (30.03).
MANILA, P. I. (KBI).—Fy., add 21,140 (14.191).
MANILA, P. I. (KBJ).—Fy., 13,240 (22.66).
MANILA, P. I. (KBK).—Fy., add 6,680 (44.91).
MANILA, P. I. (KTN).—Fy., add 5,705 (52.585), 5,720 (52.45), 5,735 (52.31), 5,765 (52.038), 8,120 (36.95), 9,110 (32.93), 9,990 (30.03).
MANILA, P. I. (KTO).—Fy., add 16,240 (18.473).
MANILA, P. I. (KTP).—Fy., add 8,120 (36.95).
MANILA, P. I. (KUS).—Fy., 18,220 (16.465).
MANILA, P. I. (KUV).—Fy., 12,280 (24.43).
MANILA, P. I. (KUW).—Fy., 9,110 (32.93).
MILFORD, OHIO.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
MILWAUKEE, WIS.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
MUSSEL ROCK, CALIF. (KGQ).—Read Mussel Rock, Calif.; loc. 122° 29' 00" W., 37° 39' 00" N. (approximate); fy., strike out 7,437.5 (40.34), 14,875 (20.175), 22,660 (13.239); add 22,700 (13.216).
MUSSELL ROCK, CALIF., Radio.—Read Mussel Rock, Calif., Radio; type, add A3; fy., strike out 11,200 (26.79); add 4,116 (72.886), 6,515 (46.05), 11,020 (27.22), 22,100 (13.575), 22,160 (13.538).
NEW BRUNSWICK, N. J. (WNBP).—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).
PASADENA, CALIF.—Type, A3.

PEORIA, ILL.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).

PORT ARTHUR, TEX., Radio.—Loc. 93° 38' 02" W., 29° 50' 24" N.; type, add A2. SAYVILLE, N. Y. (WML).—Fy., strike out 7,662.5 (38.65), 7,737.5 (38.78), 7,752.5 (38.70), 8,980 (33.41), 10,820 (27.73), 13,015 (23.05), 14,695 (20.415), 14,725 (20.375), 14,755 (20.335), 17,680 (16.968), 19,560 (15.337), 19,600 (15.306).

SOUTH LYON, MICH.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).

SPRINGFIELD, ILL.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).

TRENTON, N. J.—Type, add A2; fy., 3,310 (90.63), 4,565 (65.71), 4,585 (65.43), 4,605 (65.14), 4,615 (65), 4,625 (64.86), 4,635 (64.72), 4,645 (64.58), 4,655 (64.44), 4,665 (64.30), 4,675 (64.17), 4,685 (64.03), 4,695 (63.89), 4,705 (63.76), 5,095 (58.88), 5,105 (58.76), 5,115 (58.65), 5,125 (58.53), 5,135 (58.42), 5,145 (58.30), 5,155 (58.19), 5,165 (58.08), 5,175 (57.97), 5,185 (57.85), 5,195 (57.74), 5,205 (57.63), 5,885 (50.97), 5,900 (50.84).

VIEQUES, P. R., Radio.—Hours, 8 to 11 a. m., 1 to 5 and 6.30 to 7.30 p. m.

WEST PALM BEACH, FLA., Radio.—Fy., strike out 16,575 (18.099), add 16,580 (18.094).

ZAMBOANGA, P. I., Radio (Mindanao Island).—Hours, ship service 40 to 50 minutes of each hour from 7 a. m. to 8 p. m., continuous from 8 p. m. to 7 a. m. Strike out all particulars of the following-named stations: Los Angeles, Calif. (portable-KFV); Los Angeles, Calif. (KY Y).

COMMERCIAL SHIP STATIONS, ALPHABETICALLY, BY NAMES OF VESSELS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Ship Stations, published by the Berne bureau]

The height of the aerial and intensity of the current at its base are shown in this list for the changes in power.

- A. A. AUGUSTUS.—Power, M/amp. 17/12.
- ABANGAREZ.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/11.
- ABERCOS.—Power, M/amp. 18.5/8.
- ABSAROKA.—Power, M/amp. 28/7.5.
- A. C. BEDFORD.—Power, M/amp. 33.3/10.
- ADMIRAL CHASE.—Power, M/amp. 16.7/10.
- ADMIRAL EVANS.—Fy., strike out 125 (2,400); power, M/amp. 14/7 and 3.
- ADMIRAL FARRAGUT.—Fy., strike out 125 (2,400); power, M/amp. 14/7 and 3.
- ADMIRAL MOSER.—Power, M/amp. 18/7.
- ADMIRAL RODMAN.—Power, M/amp. 18/4.
- ADMIRAL ROGERS.—Power, M/amp. 19/4.
- ADMIRAL SCHLEY.—Fy., strike out 125 (2,400); power, M/amp. 14/7 and 3.
- ADMIRAL SEBREE.—Power, M/amp. 18/4.
- ADMIRAL WATSON.—Fy., strike out 125 (2,400); power, M/amp. 15/7 and 4.
- AGWIPOND.—Power, M/amp. 23/7; owner, cities Service Transportation Co. (Inc.).
- AGWISTAR.—Power, M/amp. 28/10.
- AGWIWORLD.—Power, M/amp. 25/4; owner, American Trust Co. (Inc.), trustee.
- ALA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/7.
- ALABAMA (WPCT).—Power, M/amp. 25/5; hours, strike out N.
- ALABAMA (WRAE).—Power, M/amp. 27.7/4.
- ALASKAN.—Power, M/amp. 23/13.
- ALASKA STANDARD.—Type, add A1; fy., strike out 454 (660), add 400 (750); power, M/amp. 13/6.
- ALDER.—Fy., strike out 137 (2,190), 141, (2,130), add 153 (1,960), 454 (660).
- ALEX B. UHRIG.—Fy., strike out 454 (660); power, M/amp. 20/10.

- ALGIC.—Power, M/amp. 24/16.
 ALGONQUIN (KGDL).—Type, A arc, A2; fy., 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 160 (1,875), 375 (800), 400 (750), 425 (705), 454 (660), 468 (640), 500 (600).
 ALMERIA LYKES.—Power, M/amp. 23/8.
 ALOHA.—Type, A2; fy., 143 (2,100), 151 (1,985), 153 (1,960), 160 (1,875), 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 40/6.
 ALPHA (KIMS).—Fy., strike out 410 (730), 455 (660); power, M/amp. 28/10.
 AMASA STONE.—Fy., strike out 394 (760); power, M/amp. 16/10.
 AMAZON.—Power, M/amp. 12/11.
 A. M. BYERS.—Power, M/amp. 20/10.
 AMERICAN BANKER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 22/14.
 AMERICAN FARMER.—Power, M/amp. 22/15.
 AMERICAN PRESS.—Power, M/amp. 20/17.
 ANDREA F. LUCKENBACH.—Power, M/amp. 30/15.
 ANGELINE.—Power, M/amp. 15/8; accounts, owner.
 ANN ARBOR No. 3.—Type, A1, A2; fy., add 394 (760).
 ANN ARBOR No. 4.—Type, add A1.
 ANN ARBOR No. 7.—Type, add A1.
 ANNETTA.—Power, M/amp. 20/8.
 ANNISTON CITY.—Power, M/amp. 35/9.
 ANTILLA.—Power, M/amp. 30/6.
 ANTINOUS.—Power, M/amp. 22/10.
 AQUARIUS.—Power, M/amp. 22/6.
 ARCHER.—Power, M/amp. 27/12.
 ARCTURUS (KIKZ).—Type, B; power, M/amp. 24/10.
 ARCTURUS (KURD).—Power, M/amp. 25/9.
 ARIZONA (KODR).—Power, M/amp. 20/10.
 ARIZPA.—Power, M/amp. 28/14.
 ARYAN.—Fy., strike out 410 (730), 454 (660).
 ASHTABULA.—Type, add A1; fy., strike out 394 (760); power, M/amp. 16/5.
 ATENAS.—Power, M/amp. 30/11.
 ATLANTIC SUN.—Fy., strike out 410 (730), 454 (660); power, M/amp. 25.9/10.
 BAFSHE.—Power, M/amp. 24/7.
 BAINBRIDGE.—Power, M/amp. 21/7.
 BALLCAMP.—Type, add A1, A3; fy., add 143 (2,100), 157 (1,910), 410 (730), 2,446 (122.65); power, M/amp. 16/10.
 BANNACK.—Power, M/amp. 25/14.
 BARACAO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 22/12.
 BARNEY, Jr.—Fy., strike out 410 (730), 454 (660).
 BARRALLTON.—Type, strike out B, add A1, A2, A3; fy., strike out 454 (660), add 157 (1910), 2,446 (122.65); power, M/amp. 16/10.
 BARRANCA.—Power, M/amp. 70/4.
 BASCOBEL.—Power, M/amp. 18.5/4.5.
 BAYONNE.—Type, strike out B, add A1, A2; fy., add 468 (640); power, M/amp. 15/5.
 BEACONLIGHT.—Type, strike out B, add A1, A2; fy., add 143 (2,100), 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875), 400 (750), 410 (730), 454 (660), 468 (640); power, M/amp. 30/12.
 BELFAST.—Type, add A1; power, M/amp. 30/5.
 BELLEPLINE.—Power, M/amp. 25/13.
 BELLINGHAM.—Power, M/amp. 25/16.
 BENJAMIN BREWSTER.—Type, add A1, and B; fy., strike out 125 (2,400), 131 (2,290), 137 (2,190), 141 (2,130), 149 (2,015).
 BENSON FORD.—Type, add B; power, M/amp. 16/10; service, PG; rates, Great Lakes service 4 cents per word.
 BERKSHIRE (KUVG).—Power, M/amp. 26/8.
 BERURY.—Type, add A, arc; fy., add 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 160 (1,875); power, M/amp. 28/9.
 BESSEMER CITY.—Power, M/amp. 30/10.
 BETHLEHEM.—Power, M/amp. 16/15.
 BETTY WEEMS.—Power, M/amp. 50/5.
 B. H. TAYLOR.—Fy., add 375 (800), 500 (600); power, M/amp. 13/10; rates, Great Lakes service only, 4 cents per word.
 BIBOCO.—Fy., strike out 131 (2,290), 137 (2,190), 141 (2,130); power, M/amp. 28/8.
 BIRD CITY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28.7/14.

- BOGOTA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 22/5.
 BOLIVAR.—Fy., strike out 410 (730), 454 (660); power, M/amp. 23/12.
 BOSTON.—Fy., strike out 151 (1,985), add 400 (750), 425 (705), 468 (640); power M/amp. 30/6.
 BRANT.—Type, strike out B; add A1, A2; fy., add 400 (750); power, M/amp. 20/5.
 BRAVE COEUR.—Power, M/amp. 23/9.
 BREEZE.—Type, add A1; power, M/amp. 20/7.
 BRIDGETOWN.—Fy., strike out 410 (730), 454 (660); power, M/amp. 22/8.
 BROOKDALE.—Power, M/amp. 12/5.
 BROOKINGS.—Power, M/amp. 14/12.
 BUTTERCUP.—Fy., strike out 394 (760), add 500 (600), 2,446 (122.65); power, M/amp. 16/10.
 CACIQUE.—Fy., strike out 410 (730), add 468 (640); power, M/amp. 23/11.
 CADARETTA.—Power, M/amp. 18/9.
 CADILLAC.—Power, M/amp. 15/9; accounts, owner.
 CALAMARES.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
 CALAWAIL.—Power, M/amp. 18/10 and 5.
 CALCITE.—Fy., add 375 (800), 500 (600); power, M/amp. 12/10.
 CALICHE.—Type, add A1, A2; fy., strike out 137 (2,190), 141 (2,130), 151 (1,985), add 153 (1,985), 160 (1,875), 400 (750), 425 (705), 468 (640); power, M/amp. 25/7.
 CALIFORNIA (KDRC).—Power, M/amp. 20/7 and 5.
 CALMAR.—Power, M/amp. 30/10.
 CALVIN AUSTIN.—Type, add A1; power, M/amp. 30/5.
 CAMAGUEY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/10.
 CAMBRIA.—Power, M/amp. 12/12.
 CAMBRIDGE.—Type, strike out B, add A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 25/3.
 CAMDEN (KDKL).—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 25/11.
 CAMDEN (WECD).—Type, add A1; power, M/amp. 30/5.
 CAPAC.—Fy., add 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875); power, M/amp. 20/8.
 CAPTAIN A. F. LUCAS.—Fy., add 410 (730), 454 (660); power, M/amp. 30/6.
 CAPTAIN WILLIAM.—Type, strike out A1; fy., strike out 2,740 (109.5), add 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); power, M/amp. 7/1.5.
 CAPULIN.—Power, M/amp. 30/15.
 CARDONIA.—Power, M/amp. 21/19.
 CAROLINA.—Power, M/amp. 16/5; hours, add N.
 CARRILLO.—Fy., 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
 CARTAGO.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/11.
 CASTANA.—Power, M/amp. 25/18.
 CATAHOULA.—Power, M/amp. 20/10.
 CATHERINE D.—Power, M/amp. 24/7.
 CATHERINE G. SUDDEN.—Power, M/amp. 25/3.
 CATHLAMET.—Power, M/amp. 25/11.
 CATHWOOD.—Power, M/amp. 16/12.
 CAUTO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/10.
 C. B. WATSON.—Power, M/amp. 20/14.
 C. D. JOHNSON III.—Power, M/amp. 17/4.
 CECIL COUNTY.—Owner, Cities Service Transportation Co. (Inc.).
 CENTAURUS.—Name changed to Portmar; owner, Carlmar S. S. Corp.
 CERRO AZUL.—Owner, Pan American Petroleum & Transport Co.
 CHALLENGER.—Fy., add 400 (750); power, M/amp. 15/13.
 CHARCAS.—Power, M/amp. 23/12.
 CHARLES CHRISTENSON.—Power, M/amp. 14/8.
 CHARLES H. CRAMP.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 28/6.
 CHARLES L. HUTCHINSON.—Power, M/amp. 18/12.
 CHARLES M. EVEREST.—Type, add A1; power, M/amp. 22/10.
 CHARLES NELSON.—Fy., 143 (2,100), 151 (1,985), 160 (1,875), 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 28.7/1.
 CHARLES PRATT.—Type, add A1, B; power, M/amp. 28/12.

- CHARLIE WATSON.—Type, add A1; fy., strike out 410 (730); power, M/amp. 23/11.
- CHESTER VALLEY.—Power, M/amp. 24/15.
- CHESTER W. CHAPIN.—Type, add A1; power, M/amp. 10/4.
- CHICKAMAUGA.—Fy., 375 (800), 425 (705), 500 (600); power, M/amp. 13/3; accounts, owner.
- CHICKASAW.—Power, M/amp. 15/16; accounts, M. R. T. Co.
- CHICKASAW CITY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/10.
- CHILCOP.—Type, add A1; power, M/amp. 30/10.
- CHILORE.—Type, add A1; fy., strike out 468 (640); power, M/amp. 36.3/10.
- CHILSCO.—Power, M/amp. 23/12.
- CHINCHA.—Type, add A1; power, M/amp. 14.1/10.
- CHIPPEWA.—Fy., add 410 (730); power, M/amp. 10/4.
- CHRISTY PAYNE.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 145 (2,070); 149 (2,015), 410 (730), 454 (660); power, M/amp. 30/8.
- CITIES SERVICE EMPIRE.—Power, M/amp. 22/12.
- CITIES SERVICE PETROL.—Power, M/amp. 03/5.
- CITY OF ALMA.—Type, B; fy., 375 (800), 425 (705), 500 (600); power, M/amp. 30.3/14; accounts, R. M. C. A.
- CITY OF ATLANTA.—Fy., strike out 410 (730) 454(660); power M/amp. 32/10.
- CITY OF BENTON HARBOR.—Power, M/amp. 14/5; rates, Great Lakes service only 4 cents per word.
- CITY OF BUFFALO.—Power, M/amp. 12/12.
- CITY OF ERIE.—Power, M/amp. 12/6.
- CITY OF FLINT.—Power, M/amp. 32/15.
- CITY OF HOLLAND.—Fy., add 500 (600); power, M/amp. 16/5.
- CITY OF HONOLULU.—Fy., add 159 (1885); power, M/amp. 37/11.
- CITY OF LOWELL.—Fy., add A1; power, M/amp. 17/5.
- CITY OF OMAHA.—Power, M/amp. 20/150.
- CITY OF VICTORIA.—Power, M/amp. 20/4.
- CLAIRTON.—Power, M/amp. 30.3/14.
- CLARE.—Type, add A1; power, M/amp. 27.2/10.
- CLAUSEUS.—Name changed to Losmar; type, add A1; power, M/amp. 26.4/10; owner, Calmar S. S. Corp.
- CLEMENS A. REISS.—Power, M/amp. 20/10.
- CLEMENT SMITH.—Owner, Cities Service Transportation Co. (Inc.).
- CLETUS SCHNEIDER.—Accounts, owner.
- CLIFFWOOD.—Power, M/amp. 21.5/15.
- COAHOMA COUNTY.—Power, M/amp. 26/14.
- COAXET.—Power, M/amp. 20/13.
- COCKAPONSET.—Power, M/amp. 19/16.
- COELLEDA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 31.8/14.
- COLD HARBOR.—Power, M/amp. 30/16.
- COLLAMER.—Power, M/amp. 26/14.
- COLLINGSWORTH.—Power, M/amp. 28/14.
- COLONEL.—Power, M/amp. 15/8; accounts, owner.
- COLONEL JAMES M. SCHOONMAKER.—Type, add A1; power, M/amp. 20/5.
- COLONEL JAMES PICKANDS.—Fy., add 425 (705); power, M/amp. 13/10.
- COLORADO SPRINGS.—Power, M/amp. 19.5/9.
- COMBER.—Type, add A1; power, M/amp. 20/8.
- COMMERCIAL BOSTONIAN.—Type, B; fy., 375 (800), 425 (705), 500 (600); power, M/amp. 22/10.
- COMMERCIAL GUIDE.—Type, add A1; power, M/amp. 27.2/4.
- COMMERCIAL MARINER.—Power, M/amp. 25/6.
- COMMODORE.—Type, strike out B, add A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 47/2.5.
- CONCORD.—Power, M/amp. 10/3.5.
- CONDOR.—Power, M/amp. 22/8.
- CONNEX PEAK.—Power, M/amp. 17/15.
- COPPENNAME.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 25/11.
- CORDOVA.—Power, M/amp. 15.4/15.
- CORINTO.—Power, M/amp. 25/5.
- COYA.—Power, M/amp. 22/8.
- CRAMPTON ANDERSON.—Type, add A1; power, M/amp. 28/10.
- CRANFORD.—Power, M/amp. 25/17.
- CREOLE (WICB).—Power, M/amp. 21/15.
- CREST.—Power, M/amp. 20/5.
- CRIPPLE CREEK.—Power, M/amp. 21.4/7.

- CUBA.—Type, add A1; power, M/amp. 25/5; hours, X.
 CUBORE.—Type, add A1; power, M/amp. 30/10.
 CULBERSON.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), add 153 (1,960); power, M/amp. 28/8.
 CULBURRA.—Power, M/amp. 16/4.
 CURACAO.—Power, M/amp. 16/4.
 CURRIER.—Type, A1, A2; fy., strike out 410 (730), 454 (660); power, M/amp. 25/11.
 CUZCO.—Power, M/amp. 23/12.
 DANIEL J. MORRELL.—Power, M/amp. 16/11.
 DARTMOUTH.—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640); power, M/amp. 20/4.
 DAVENPORT.—Power, M/amp. 20/18.
 DAVID P. FLEMING.—Type, strike out A1; fy., strike out 2,740 (109.5), add 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); power, M/amp. 7/1.5.
 DEERLODGE.—Read Deer Lodge; power, M/amp. 23/15.
 DEFACIO.—Power, M/amp. 26/12.
 DELECTO.—Type, add A1; power, M/amp. 26.3/10.
 DELIGHT.—Power, M/amp. 24/8.
 DELISLE.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 29/6.
 DEPERE.—Power, M/amp. 20/9.
 DEROCHE.—Power, M/amp. 25/12.
 D. G. SCOFIELD.—Fy., add 468 (640); power, M/amp. 23/11.
 DIAMOND CEMENT.—Power, M/amp. 27/6.5.
 DIANA DOLLAR.—Fy., add 410 (730), 454 (660); power, M/amp. 15/7.5; owner, Dollar S. S. Lines (Inc.).
 DILWORTH.—Power, M/amp. 28/12.
 DIO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 24/9.
 DIRIGO.—Power, M/amp. 16/12.
 DISTRICT OF COLUMBIA.—Type, strike out B, add A, arc; fy., strike out 125 (2,400); power, M/amp. 19/8.
 DIXIE.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), add 468 (640); power, M/amp. 12/10.
 DIXIE ARROW.—Power, M/amp. 32/10.
 D. M. RENTON.—Type, strike out A1; fy., strike out 2,740 (109.5), add 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); service, P.
 DOCHET.—Power, M/amp. 21/9.
 DOLLY C.—Power, M/amp. 9/3.
 DORCHESTER (WFDX).—Type, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 20/5.
 DOROTHY LUCKENBACH.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/15.
 DOROTHY WINTERMOTE.—Power, M/amp. 30/9.
 DOUGLASS.—Power, M/amp. 14/4.
 DOYLESTOWN.—Power, M/amp. 20/6.
 DRYDEN.—Fy., strike out 125 (2,400), 131 (2,290), 133 (2,255), 135 (2,220), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015), 159 (1,885), add 151 (1,985); power, M/amp. 22/6.
 DUNGANNON.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/16.
 DUQUESNE.—Power, M/amp. 20/15.
 EAGLE.—Type, add A1; fy., strike out 468 (640); power, M/amp. 27.6/10.
 EASTERN CROWN.—Power, M/amp. 25/10.
 EAST INDIAN.—Fy., strike out 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 394 (760); power, M/amp. 16/10.
 EBB.—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 20/8.
 ECLIPSE.—Power, M/amp. 22/15.
 EDENTON.—Power, M/amp. 30/16.
 EDGEFIELD.—Power, M/amp. 20/18.
 EDGEHILL.—Power, M/amp. 17.2/15.
 EDMONT.—Power, M/amp. 30/15.
 EDGEMOOR.—Power, M/amp. 23/16.
 EDITH.—Power, M/amp. 25.7/10.
 EDITOR.—Power, M/amp. 23/8.
 EDNA CHRISTENSON.—Power, M/amp. 34.1/6.
 EDWARD J. BERWIND.—Power, M/amp. 18/8.
 EDWARD LUCKENBACH.—M/amp. 28/14.
 EDWARD Y. TOWNSEND.—Power, M/amp. 16/11.

- EDWIN CHRISTENSON.—Power, M/amp. 18/12.
 EELBECK.—Type, add B; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 145 (2,070), 149 (2,015), 157 (1,910), 159 (1,885), add 425 (705); power, M/amp. 26/6.
 EFFINGHAM.—Power, M/amp. 22/9.
 EFFNA.—Power, M/amp. 23/8.
 E. J. NICKLOS.—Power, M/amp. 33.3/12.
 E. J. SADLER.—Type, add A1; power, M/amp. 66/10.
 EL ALBA.—Power, M/amp. 28/8.
 EL ALMIRANTE.—Power, M/amp. 19/8.
 EL CAPITAN (WICF).—Power, M/amp. 19/8.
 EL CEDRO.—Power, M/amp. 26/6.
 EL COSTON.—Power, M/amp. 23/6.
 ELDENA.—Power, M/amp. 21.8/12.
 EL DIA.—Power, M/amp. 28/7.
 ELDORADO.—Power, M/amp. 12/10.
 EL ISLEO.—Power, M/amp. 15.25/7.
 ELLENOR.—Power, M/amp. 24.2/10.
 ELMSPORT.—Power, M/amp. 22.5/15.
 EL NORTE.—Power, M/amp. 28/8.
 EL OCCIDENTE.—Power, M/amp. 21.35/8.
 EL OCEANO.—Power, M/amp. 23/6.
 EL ORIENTE.—Power, M/amp. 21.35/8.
 EL SEGUNDO.—Fy., add 400 (750); power, M/amp. 22/6.
 EL SIGLO.—Power, M/amp. 28/7.
 EL VALLE.—Power, M/amp. 28/8.
 E. M. CLARK.—Type, A1; power, M/amp. 31.8/11.5.
 EMERGENCY AID.—Fy., strike out 125 (2,400), 131 (2,290), 133 (2,255), 135 (2,220), 137 (2,190), 141 (2,130), 145 (2,070), 149 (2,015), add 159 (1,885); power, M/amp. 23/10.
 EMMA ALEXANDER.—Fy., strike out 125 (2,400); power, M/amp. 24/8 and 5.
 EMORY L. FORD.—Power, M/amp. 18/8.
 EMPIRE.—Power, M/amp. 20/8.
 ENDICOTT.—Power, M/amp. 23/7.
 ENGLEWOOD.—Power, M/amp. 20/16.
 EQUATOR.—Power, M/amp. 9/3.
 ESTRADA PALMA.—Type, add A1; power, M/amp. 27/5.
 EURANA.—Type, add A1; power, M/amp. 23/10.
 EVANGELINE (KGAZ).—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/10.
 EVERETT (KINN).—Power, M/amp. 23/10.
 E. W. SINCLAIR.—Type, add A1; power, M/amp. 30/12.
 EXAMINER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26/14.
 EXANTHIA.—Power, M/amp. 28/14.
 EXBROOK.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/14.
 EXCELLENCY.—Power, M/amp. 28/14.
 EXCELSIOR.—Power, M/amp. 29/12.
 EXCHESTER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/16.
 EXECUTIVE.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/18.
 EXFORD.—Power, M/amp. 30/14.
 EXHIBITOR.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/17.
 EXMINISTER.—Power, M/amp. 28/20.
 EXPORTER.—Power, M/amp. 25/14.
 EXPLORER.—Power, M/amp. 25/12.
 EXPRESS.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/14.
 EXTAVIA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/15.
 EXTON.—Power, M/amp. 28/14.
 FAIRFIELD.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 26/12.
 FAIRFIELD CITY.—Power, M/amp. 30/10.
 FEDERAL (KDWY).—Power, M/amp. 25/8.
 FELIX TAUSSIG.—Type, add A1; power, M/amp. 28/10.
 F. H. HILLMAN.—Fy., strike out 410 (730), 454 (660), add 400 (750), 468 (640); power, M/amp. 23/11.
 F. H. WICKETT.—Type, add A1; power, M/amp. 26/10.
 F. J. LUCKENBACH.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/15.
 FLOMAR.—Type, add A1; power, M/amp. 14.5/10.
 FLOW.—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 20/8.

- FLUOR SPAR.—Type, add A1; fy., strike out 410 (730), 454 (660); power, M/amp. 30/12.
- FONTANA.—Power, M/amp. 11/8.
- FOUR WINDS.—Power, M/amp. 17/4.
- F. Q. BARSTOW.—Power, M/amp. 29/10.
- FRANCES WEEMS.—Power, M/amp. 50/7.
- FRANK BILLINGS.—Power, M/amp. 16/11.
- FRANK H. BUCK.—Type, strike out B; fy., strike out 125 (2,400); power M/amp. 16/7.
- FRANKLIN.—Fy., strike out 410 (730), 454 (660); power, M/amp. 17/7.
- FRANKLIN K. LANE.—Type, add A1; power, M/amp. 30.3/10.
- FRANK SEITHER.—Power, M/amp. 16/11.
- FRED G. HARTWELL.—Power, M/amp. 18/8.
- FRONTENAC.—Power, M/amp. 19/8.
- GALE.—Type, add A1; power, M/amp. 20/7.
- GARGOYLE.—Type, add A1; power, M/amp. 28/10.
- GARNET HULINGS.—Power, M/amp. 33.3/15.
- G. A. TOMLINSON.—Power, M/amp. 12/12.
- GEMMA.—Power, M/amp. 20/9.
- GENEVIEVE LYKES.—Type, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600).
- GEORGEANNA WEEMS.—Power, M/amp. 25/6.
- GEORGE C. GREER.—Power, M/amp. 17.9/6.
- GEORGE WASHINGTON (KDCL).—Type, strike out B; power, M/amp. 35/30.
- GLADYSBE.—Name changed to Gertrude Kellogg.
- GLENPOOL.—Type, add A1; power, M/amp. 29/11.
- GLYMONT.—Power, M/amp. 30/9.
- GOLDEN BEAR.—Power, M/amp. 14/14.
- GOLDEN COAST.—Power, M/amp. 14/16.
- GOLDEN DRAGON.—Fy., strike out 125 (2,400), add 157 (1,910); power, M/amp. 20/8.
- GOLDEN EAGLE.—Power, M/amp. 14/14.
- GOLDEN FLEECE.—Power, M/amp. 20/10.
- GOLDEN HARVEST.—Power, M/amp. 14/12.
- GOLDEN HIND.—Fy., strike out 125 (2,400), add 153 (1,960), 157 (1,910), 160 (1,875); power, M/amp. 20/8.
- GOLDEN HORN.—Power, M/amp. 24/6.
- GOLDEN MOUNTAIN.—Power, M/amp. 16/13.
- GOLDEN PEAK.—Power, M/amp. 22/13.
- GOLDEN ROD.—Power, M/amp. 14/10.
- GOLDEN STAR.—Power, M/amp. 20/7.
- GOLDEN STATE.—Fy., strike out 125 (2,400), 137 (2,190); power, M/amp. 15/8.
- GOLDEN TIDE.—Power, M/amp. 20/10.
- GOLDEN WALL.—Power, M/amp. 18/10.
- GOLDEN WEST.—Power, M/amp. 14/10.
- GOLIAH.—Power, M/amp. 14/4.
- GOODTIME.—Power, M/amp. 16/4.
- GOVERNOR COBB.—Type, add A1; power, M/amp. 24/5.
- GOVERNOR DINGLEY.—Type, add A1; fy., add 400 (750); power, M/amp. 30/6.
- GRAND ISLAND.—Power, M/amp. 16/8.
- GRAYS HARBOR.—Power, M/amp. 20/10.
- GUATEMALA.—Type, add A1; power, M/amp. 23/11.
- GULFCOAST.—Type, A1, A2; fy., add 400 (750); power, M/amp. 22/6.
- GULFCREST.—Power, M/amp. 23.3/6.
- GULFHAWK.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 29/9.
- GULFKING.—Type, add A1; fy., strike out 410 (730), 454 (660), 468 (640); power, M/amp. 21.5/6.
- GULFLAND.—Type, A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 26/10.
- GULFLIGHT.—Type, add A1; power, M/amp. 23/4.
- GULFMAID.—Type, A1, A2; fy., add 400 (750); power, M/amp. 75/6.
- GULF OF MEXICO.—Type, add A1, A2; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 157 (1,910), add 400 (750); power, M/amp. 27.7/7.
- GULF OF VENEZUELA.—Type, A2; fy., 400 (750); power, M/amp. 23.3/9.
- GULFOIL.—Type, strike out B, add A1, A2; fy., strike out 410 (730), 454 (660); power, M/amp. 27/7.
- GULFPENN.—Type, A1, A2; power, M/amp. 32/7.

- GULFPOINT.—Type, strike out B, add A1, A2; fy., add 400 (750); power, M/amp. 23/10.
- GULFPRINCE.—Type, A1, A2; fy., strike out 410 (730), 454 (660), add 400 (750); power, M/amp. 21.5/7.
- GULFQUEEN.—Type, A1, A2; fy., strike out 410 (730), 454 (660), add 400 (750), 468 (640); power, M/amp. 25/10.
- GULFSTAR.—Type, add A1; power, M/amp. 22/5.
- GULFSTATE.—Type, add A1, A2; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875), add 400 (750), 425 (705); power, M/amp. 31/6.
- GULFSTREAM.—Type, A1, A2; fy., strike 410 (730), 454 (660), add 400 (750); power, M/amp. 27.7/8.
- GULFTRADE.—Type, strike out B, add A1, A2; power, M/amp. 26/4.
- GULFWING.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 28/12.
- HAGAN.—Power, M/amp. 21.34/11.5.
- HAGOOD.—Power, M/amp. 25/10.
- HAITI.—Power, M/amp. 26/8.
- HALSEY.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 33.3/6.
- HAMLIN F. McCORMICK.—Power, M/amp. 40/10.
- HAMPTON ROADS.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875), 375 (800), 425 (705), 500 (600); power, M/amp. 30/4.
- HANLEY.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 149 (2,015), 157 (1,910), 159 (1,885), add 400 (750); power, M/amp. 24/8.
- HAROLD WALKER.—Power, M/amp. 28/10.
- HARRIETT.—Read Harriet; type, A1, A2; fy., 375 (800), 410 (730), 425 (705).
- HARRY COULBY.—Fy., add 143 (2,100), 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 394 (760); power, M/amp. 15/10.
- HARRY FARNUM.—Type, add A1; fy., strike out 410 (730), 454 (660); power, M/amp. 30/10.
- HARVARD. (WSCR).—Power, M/amp. 18/10.
- HASTINGS.—Power, M/amp. 25/15.
- HATTERAS.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/8.
- HAVANA.—Type, strike out B; fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 32/7.
- HAWAIIAN STANDARD.—Type, add A1; power, M/amp. 13/6.
- H. C. FOLGER.—Fy., 375 (800), 400 (750), 425 (705), 500 (600); power, M/amp. 20/8.
- HEFFRON.—Power, M/amp. 27/14.
- HEGIRA.—Fy., strike out 454 (660); power, M/amp. 27/14.
- HELEN.—Power, M/amp. 26/10.
- HENRY FORD II.—Type, strike out B; fy., strike out 394 (760), add 143 (2,100), 157 (1910); power, M/amp. 16/10.
- HENRY G. DALTON.—Fy., add 143 (2,100), 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 394 (760); power, M/amp. 12/10.
- HENRY M. FLAGLER.—Type, add A1; power, M/amp. 27/5.
- HENRY R. MALLORY.—Fy., 375 (800), 425 (705), 500 (600); power, M/amp. 26/13.
- HENRY S. GROVE.—Type, add A1, A2; fy., 143 (2,100), 151 (1,985), 160 (1,875), 375 (800), 425 (705), 500 (600).
- HERBERT L. PRATT.—Fy., strike out 468 (640); power, M/amp. 13.8/5.
- HERMAN FALK.—Name changed to Cities Service Ohio; owner, Cities Service Transportation Co. (Inc.).
- HERMOSA.—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 7/4.5; service, PG; hours, X; accounts, R. M. C. A.
- HIGHO.—Power, M/amp. 30/10.
- H. M. STOREY.—Power, M/amp. 23/11.
- HOLLYWOOD.—Power, M/amp. 24/16.
- HORACE LUCKENBACH.—Power, M/amp. 30/17.
- HORACE X. BAXTER.—Power, M/amp. 80/3.
- HOXIE.—Power, M/amp. 26.3/10.
- H. T. HARPER.—Power, M/amp. 23/11.
- HUGOTON.—Type, A1, A2; fy., 400 (750), 468 (640); power, M/amp. 16.3/10.
- HUGUENOT.—Power, M/amp. 20/13.
- HULBER.—Power, M/amp. 18.5/4.5; accounts, owner.
- HUMRICK.—Type, strike out B, add A1, A2, A3; fy., add 143 (2,100), 157 (1,910), 2446 (122.65); power, M/amp. 16/10.
- H. W. BAXTER.—Power, M/amp. 30/10.
- HYBERT.—Power, M/amp. 26/14.

- ILLINOIS (KDSZ).—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), 153 (1,960), 159 (1,885), add 425 (705); power, M/amp. 30/5.
- ILLINOIS (WPCY).—Power, M/amp. 25/5.
- INDIA ARROW.—Type, add A1; power, M/amp. 27/11.
- INNOKO.—Power, M/amp. 25/16.
- IOWA (KUDK).—Power, M/amp. 24/9.
- IOWAN.—Power, M/amp. 30/7.
- IPSWICH.—Power, M/amp. 30.3/14.
- IRENE (KOKT).—Power, M/amp. 22/12.
- IRENE (WQBE).—Power, M/amp. 10/5.
- IROQUOIS (KGGY).—Power, M/amp. 15.5/3.
- ISHPEMING.—Power, M/amp. 18/8; accounts, owner.
- ISOBEL WEEMS.—Type, B; fy., 375 (800), 425 (705), 500 (600); power, M/amp. 22/10; accounts, owner.
- JACOX.—Power, M/amp. 20/6.
- JADDEN.—Power, M/amp. 30/14.
- JAMES E. FERRIS.—Power, M/amp. 16/8.
- JAMES GRIFFITHS.—Power, M/amp. 27/11.
- JAMES MACNAUGHTON.—Power, M/amp. 16/11.
- JAMES MCGEE.—Power, M/amp. 26/10.
- JAMES P. WALSH.—Power, M/amp. 14/10; accounts, owner.
- J. A. MOFFETT.—Fy., add 410 (730), 454 (660); power, M/amp. 23/6.
- JANE CHRISTENSON.—Power, M/amp. 22/10.
- JANE NETTLETON.—Power, M/amp. 14/6.
- JAPAN ARROW.—Power, M/amp. 25/11.
- JAVA ARROW.—Type, add A1; power, M/amp. 28/7.
- JEAN WEEMS.—Power, M/amp. 35/8.
- JEFFERSON.—Power, M/amp. 28/5.
- JEFFERSON MYERS.—Fy., strike out 125 (2,400), 137 (2,190).
- J. E. O'NEIL.—Power, M/amp. 25.9/8.
- J. H. SHEADLE.—Power, M/amp. 20/8; accounts, owner.
- J. J. SULLIVAN.—Power, M/amp. 16/11.
- J. L. LUCKENBACH.—Power, M/amp. 28/18.
- J. L. REISS.—Power, M/amp. 20/10; rates, Great Lakes service only, 4 cents per word.
- J. N. PEW.—Type, add A1; power, M/amp. 22.55/11.
- JOHN A. DONALDSON.—Power, M/amp. 16/11.
- JOHN A. KLING.—Type, add A1; power, M/amp. 20/8.
- JOHN G. MUNSON.—Fy., add 375 (800), 500 (600); power, M/amp. 13/10; rates, Great Lakes service only, 4 cents per word.
- JOHN N. STEWART.—Type, strike out A1; add A3; fy., strike out 2,740 (109.5), 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); power, M/amp. 7/1.5.
- JOHN P. REISS.—Power, M/amp. 20/10.
- JOHN STANTON.—Power, M/amp. 16/11.
- JOHN WORTHINGTON.—Type, add A1; power, M/amp. 26/11.
- JOMAR.—Power, M/amp. 20/18.
- JOSEPH G. BUTLER, Jr.—Power, M/amp. 18/12.
- JOSEPH R. PARROTT.—Type, add A1; power, M/amp. 27/5.
- JUNIATA (WADM).—Power, M/amp. 25/5.
- KANSAN.—Power, M/amp. 20/13.
- KEKOSKEE.—Power, M/amp. 23/12.
- KENTUCKY.—Fy., strike out 125 (2,400), 137 (2,190), add 157 (1,910), power, M/amp. 25/10.
- KERHONKSON.—Power, M/amp. 28.7/17.
- K. I. LUCKENBACH.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/12.
- KNOXVILLE CITY.—Power, M/amp. 34.8/12.
- K. R. KINGSBURY.—Type, add A1; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 33.3/10.
- LACKAWANNA.—Power, M/amp. 16/15.
- LAGONDA.—Fy., add 153 (1,960), 155 (1,935); power, M/amp. 12/10.
- LAKE BENBOW.—Fy., 375 (800), 400 (750), 410 (730), 425 (705), 468 (640), 500 (600); power, M/amp. 17/10.
- LAKE ELLITHORPE.—Power, M/amp. 23/13.
- LAKE FLATONIA.—Power, M/amp. 27/8.
- LAKE FRANCES.—Power, M/amp. 30/9.
- LAKE GAITHER.—Power, M/amp. 30/8.
- LAKE GIDDINGS.—Power, M/amp. 25/9.
- LAKE GILTEDGE.—Power, M/amp. 24/12.

- LAKE INGLENOK.—Power, M/amp. 23/7.
LANCASTER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 27/16.
LARA.—Type, add A1; power, M/amp. 20/9.
LATOCHE.—Power, M/amp. 15.4/5.
LEBANON.—Power, M/amp. 16/14.
L. E. BLOCK.—Fy., 375 (800), 394 (760), 410 (730), 425 (705).
LEBORE.—Power, M/amp. 28/11.
LEHIGH (WCDN).—Power, M/amp. 16/14.
LENA LUCKENBACH.—Power, M/amp. 28/10.
LEVANT ARROW.—Type, add A1; power, M/amp. 24/11.
LEVIATHAN.—Fy., add 13270 (22.61), 17520 (17.123).
LEWIS LUCKENBACH.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/9.
LEXINGTON.—Power, M/amp. 15/5.
LIBBY MAINE.—Power, M/amp. 28.7.
LIBERTY GLO.—Type, add A1; power, M/amp. 30/12.
LIGONIER.—Fy., strike out 400 (750); power, M/amp. 25/5.
LILLIAN.—Power, M/amp. 25.8/14.
LIMON.—Power, M/amp. 30/7.
LOS ALAMOS.—Power, M/amp. 20/5.
LOUIE BLACK.—Type, strike out A1, A2; add A3; fy., strike out 2,750 (109),
add 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); power, M/amp. 7/1.5.
LOUISIANA.—Power, M/amp. 26/10.
LOUIS M. WINSLOW.—Type, add A1; power, M/amp. 20/2.
LYNDONIA.—Power, M/amp. 15/7.
LYNFORD E. GEER.—Power, M/amp. 20/10.
M. A. BRADLEY.—Power, M/amp. 10/10.
MACON.—Type, A2; fy. 375 (800), 425 (705), 500 (600); power, M/amp. 10/4.
MADISON.—Fy., strike out 400 (750), 468 (640); power, M/amp. 28/6.
MAGMERIC.—Type, add A1; power, M/amp. 30/12.
MAHUKONA.—Type, B; fy., 375 (800), 425 (705), 500 (600); rates, 8 cents per
word.
MAITLAND, No. 1.—Power, M/amp. 16/5.
MAINE.—Fy., 375 (800), 425 (705), 500 (600); power, M/amp. 25/10.
MAJOR WHEELER.—Power, M/amp. 25.7/15.
MAKAWAO.—Power, M/amp. 18/10.
MAKUA.—Power, M/amp. 16/12.
MALACCA.—Type, A1, A2; fy., strike out 410 (730), 454 (660), add 400 (750),
468 (640); power, M/amp. 30/7.
MALANG.—Power, M/amp. 33.3/6.
MALOLO.—Type, add A3; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130),
add 5,525 (54.3), 5,555 (54), 8,290 (36.19), 8,450 (35.50), 11,050 (27.15), 11,230
(26.71), 13,240 (22.66), 16,575 (18.10); power, M/amp. 25/12.
MANATAWNY.—Power, M/amp. 20/12.
MANITOU.—Type, A1, A2; power, M/amp. 16/5.
MANOA.—Fy., strike out 125 (2,400); power, M/amp. 27/10.
MANUKAI.—Fy., strike out 125 (2,400), add 153 (1,960), 157 (1,910), 159 (1,885
power, M/amp. 20/10.
MANULANI.—Fy., strike out 135 (2,220), add 160 (1,875); power, M/amp. 20/5.
MARGARET.—Power, M/amp. 22.7/8.
MARGARET DOLLAR.—Fy., 125 (2,400), 143 (2,100), 151 (1,985), 153 (1,960),
155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875) 375 (800), 425 (705), 500 (600);
power, M/amp. 13/9.
MARINA.—Type, B; fy., strike out 400 (750); 469 (640); power, M/amp. 55/8.
MARQUETTE.—Power, M/amp. 15/9; accounts, owner.
MARTINIQUE.—Fy., add 410 (730); power, M/amp. 22/10.
MARTIN MULLEN.—Power, M/amp. 12/12; accounts, owner.
MARY.—Power, M/amp. 26/6.
MARY LUCKENBACH.—Type, add A1; power, M/amp. 33.3/9.
MATSONIA.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp.
27/10.
MAUI.—Fy., strike out 125 (2,400); power, M/amp. 27/10.
MAUNA, ALA.—Power, M/amp. 14/14.
MAYAN.—Power, M/amp. 23/3.
MAZAMA.—Power, M/amp. 23/6.
McKEESPORT.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/14.
MEDINA.—Power, M/amp. 27/13.
MEMPHIS CITY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 24/12.
MERCER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26.3/14.

- METAPAN.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
- MEYANIA.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 31/9.
- M. F. ELLIOTT.—Power, M/amp. 26/10.
- MIAMI.—Power, M/amp. 23/5.
- MICHAEL GALLAGHER.—Power, M/amp. 16/11; accounts, owner.
- MICHIGAN (KEGS).—Power, M/amp. 24/12; accounts, owner.
- MICHIGAN (KFLN).—Power, M/amp. 28/7; accounts, owner.
- MILLINOCKET.—Power, M/amp. 22/9.
- MILTON S. PATRICK.—Type, strike out A1; fy., strike out 2,750 (109.1), add 2,524 (118.86), 2,560 (117.2), 2,584 (116.10); power, M/amp. 7/1.5.
- MINNEOLA.—Power, M/amp. 20/6.
- MINNEQUA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 29/12; hours, add N.
- MISSOURI (WQDK).—Type, A1, A2; service, PG; hours, X; rates, Great Lakes service 4 cents per word; accounts, R. C. A.
- MONTANA.—Type, add B; power, M/amp. 22/12.
- MONTAUK.—Fy., add 410 (730), 454 (660); power, M/amp. 22/16.
- MONTEBELLO.—Fy., add 468 (640); power, M/amp. 22/10.
- MONTEREY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/15.
- MOUNT EVANS.—Power, M/amp. 29/9.
- MUNAIRES.—Type, add A1; power, M/amp. 26/6.
- MUNALBRO.—Type, A1, A2; fy., add 400 (750); power, M/amp. 25/7.
- MUNARGO.—Type, A arc and A1, A2; fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/10.
- MUNBEAVER.—Type, A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 27/8.
- MUNISING.—Power, M/amp. 15/9; accounts, owner.
- MUNISLA.—Power, M/amp. 24/10.
- MUNLISTO.—Power, M/amp. 22.7/7.
- MUNLOYAL.—Type, A2; fy., 375 (800), 400 (750), 425 (705), 500 (600); power, M/amp. 26/6.
- MUNMOTOR.—Power, M/amp. 11.8/10.
- NANTUCKET.—Fy., strike out 454 (660); power, M/amp. 21.3/7.5; hours, N (first class), X (third class).
- NASHABA.—Fy., strike out 155 (1,935), add 425 (705); power, M/amp. 29/8.
- NEBRASKAN.—Call changed to WACE, effective Apr. 1, 1930.
- NEGAUNEE.—Power, M/amp. 15/9; accounts, owner.
- NELSON.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26/12.
- NELSON TRAVELER.—Owner, Charles Nelson Co. (Inc.).
- NEPONSET.—Name changed to Susan V. Luckenbach.
- NESHIRA.—Power, M/amp. 4/2.
- NEVADA (KOZJ).—Power, M/amp. 22/8.
- NEVADAN.—Power, M/amp. 20/11.
- NEW BRITAIN.—Power, M/amp. 25/15.
- NEW HAVEN.—Type, add A1; power, M/amp. 15/6.
- NEW YORK (WBCG).—Power, M/amp. 30.7/12.
- NEW YORK (WECF).—Type, A1, A2; fy., strike out 141 (2,130), add 400 (750), 468 (640); power, M/amp. 30/6.
- NORCO.—Type, strike out B, add A1, A2; fy., add 468 (640); power, M/amp. 21/1.
- NORMA.—Power, M/amp. 25/11.
- NORMAN BRIDGE.—Type, add A1; power, M/amp. 27/6.
- NORTH AMERICAN.—Power, M/amp. 25/4.
- NORWOOD.—Power, M/amp. 21/7.
- OAKMAN.—Power, M/amp. 21.5/15.
- OAKMAR.—Fy., strike out 410 (730), 464 (660), add 400 (750), 468 (640); power, M/amp. 27/11.
- OAKPARK.—Fy., strike out 425 (705), add 410 (730); power, M/amp. 30/14.
- OCEAN.—Type, add A1; power, M/amp. 20/7.
- OCEANIA VANCE.—Power, M/amp. 26/5.
- OCTORARA.—Power, M/amp. 17/5.
- OGONTZ.—Power, M/amp. 26/18.
- OHIOAN.—Power, M/amp. 22/6.
- OLIVE K.—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 5,525 (54.3), 8,920 (36.19), 8,450 (35.50), 11,050 (27.15), 11,230 (26.71), 13,240 (22.64); power, M/amp. 15/3; rates, 8 cents per word.
- OLYMPIA.—Power, M/amp. 26/10.

- ONEIDA.—Fy., strike out 151 (1,985), 394 (760), add 157 (1,910); power, M/amp. 17/10.
- ONONDAGA.—Fy., 143 (2,100), 157 (1,910), 375 (800), 410 (730), 425 (705), 500 (600); power, M/amp. 16/10.
- OREGON (KUTD).—Power, M/amp. 24/8.
- OREGON (WBDN).—Power, M/amp. 17/3.
- OREGONIAN.—Power, M/amp. 18/7.
- ORITANI.—Type, add A1; power, M/amp. 15.4/6.
- ORIZABA.—Type, add A1, A2; fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 31/8.
- OTSEGO.—Power, M/amp. 30/8.
- PACIFIC.—Type, add A1; power, M/amp. 26/10.
- PACIFIC CEDAR.—Type, A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 30/8.
- PACIFIC FIR.—Fy., strike out 410 (730), 454 (660); power, M/amp. 27/16.
- PACIFIC HEMLOCK.—Power, M/amp. 24.2/15.
- PACIFIC PINE.—Power, M/amp. 42.2/14.
- PACIFIC REDWOOD.—Power, M/amp. 31/14.
- PACIFIC SPRUCE.—Type, add B; fy., 143 (2,100), 151 (1,985), 159 (1,885), 160 (1,875), 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 26/11.
- PACIFIC SUN.—Type, A1, A2; fy., 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 160 (1,875), 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 22.86/15, accounts, R. M. C. A.
- PACO.—Power, M/amp. 21.3/6.
- PANAMAN.—Power, M/amp. 24/7.
- PANUCO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 24/10.
- PARISMINA.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/11.
- PASTORES.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
- PATRICK HENRY.—Fy., add 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875); power, M/amp. 25/11.
- PAULSBORO.—Type, add A1; power, M/amp. 27.4/14.
- PENMAR.—*Read* Pennmar; type, add A1; power, M/amp. 30/9.
- PENNSYLVANIA (KUSG).—Power, M/amp. 22/18.
- PENNSYLVANIA (WKCV).—Power, M/amp. 24.65/10.
- PENNSYLVANIA SUN.—Power, M/amp. 38/10.
- PERRY L. SMITHERS.—Power, M/amp. 28/12.
- PETER KERR.—Power, M/amp. 32/8.
- PETER REISS.—Power, M/amp. 20/10.
- PETER WHITE.—Power, M/amp. 15/8; accounts, owner.
- PHILIP D. BLOCK.—Power, M/amp. 17/12; accounts, owner.
- PIONEER (KFMK).—Power, M/amp. 16/8; accounts, owner.
- POINT REYES.—Fy., 454 (660); power, M/amp. 23/10.
- POLYBIUS.—Power, M/amp. 26/15.
- POMONA.—Power, M/amp. 28/15.
- PONTIAC.—Power, M/amp. 19/8; accounts, owner.
- PORTO RICO.—Power, M/amp. 28/13.
- PRESIDENT CLEVELAND.—Fy., 143 (2,100), 151 (1,985), 155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875), 375 (800), 425 (705), 500 (600); power, M/amp. 17/18.
- PRESIDENT HAYES.—Fy., add 410 (730), 454 (660); power, M/amp. 13/14.
- PRESIDENT JACKSON.—Fy., strike out 125 (2,400), add 153 (1,960), 155 (1,935), 157 (1,910), 159 (1,885), 410 (730); power, M/amp. 17/12.
- PRESIDENT JEFFERSON.—Fy., strike out 137 (2,190), 141 (2,130), add 153 (1,960), 155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875), 410 (730); power, M/amp. 17/12.
- PRESIDENT MCKINLEY.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 155 (1,935), 157 (1,910), 159 (1,885), 160 (1,875), 375 (800), 410 (730), 425 (705), 454 (660), 500 (600); power, M/amp. 17/14.
- PRESQUE ISLE.—Power, M/amp. 15/8; accounts, owner.
- PRICE MCKINNEY.—Power, M/amp. 16/11.
- PRUSA.—Power, M/amp. 25/16.
- PURITAN.—Type, add A1; fy., strike out 394 (760); power, M/amp. 13/5.
- QUEEN.—Power, M/amp. 20/5.
- QUEEN ANNE.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 16.3/12.
- QUINAULT.—Power, M/amp. 30/3.
- QUINCY (KFEF).—Type, B; fy., 375 (800), 425 (705), 500 (600); power, M/amp. 22/8.

- QUINCY (WFDZ).—Type, A1, A2; fy., 375 (800), 400 (750), 425 (705), 468 (640), 500 (600); power, M/amp. 20/5.
- QUISTCONCK.—Power, M/amp. 23/20.
- RADNOR.—Power, M/amp. 27/8.
- REAPER.—Fy., strike out 410 (730); power, M/amp. 30/5.
- REPUBLIC (WTCW).—Power, M/amp. 28/7.
- RESTORER.—Fy., add 468 (640); power, M/amp. 38/12.
- RICHARD J. REISS.—Power, M/amp. 20/10.
- RICHARD PECK.—Power, M/amp. 12/4.
- RICHFIELD.—Power, M/amp. 22/7.
- RICHMOND.—Power, M/amp. 23/11.
- RIPPLE (KFKN).—Type, add A1; power, M/amp. 20/8.
- R. J. HANNA.—Type, add A1; power, M/amp. 23/11.
- ROANOKE.—Power, M/amp. 21.6/4.
- ROBERT E. HOPKINS.—Power, M/amp. 30/8.
- ROBERT HOBSON.—Power, M/amp. 18/10.
- ROBERT J. PAISLEY.—Accounts, owner.
- ROBERT P. CLARK.—Fy., add 410 (730); power, M/amp. 18/4.
- ROBIN GOODFELLOW.—Power, M/amp. 25.7/10.
- ROBIN GRAY.—Power, M/amp. 28/10.
- ROBIN HOOD.—Fy., strike out 425 (705), add 410 (730); power, M/amp. 30/10.
- ROCHESTER.—Power, M/amp. 21.4/8.
- ROOSEVELT.—Power, M/amp. 18/8.
- ROSAMOND.—Power, M/amp. 30/4.
- RUTH ALEXANDER.—Fy., strike out 167 (1,796); power, M/amp. 20/12.
- RUTH LYKES.—Power, M/amp. 21.6/8.
- R. W. STEWART.—Type, add A1; power, M/amp. 26/10.
- SABOTAWAN.—Power, M/amp. 26/10.
- SACANDAGA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/12.
- SACCARAPPA.—Type, strike out B, add A1, A2; power, M/amp. 30/12.
- SAC CITY.—Fy., 375 (800), 425 (705), 500 (600); power, M/amp. 23/14.
- SACO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26/15.
- SAGAPORACK.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/16.
- SAGEBRUSH.—Type, B; fy., 375 (800), 425 (705), 500 (600); power, M/amp. 22.8/15.
- SAHALE.—Power, M/amp. 21.6/12.
- SALVATION.—Power, M/amp. 75/14.
- SAMUEL L. FULLER.—Type, add A1.
- SAN ANGELO.—Power, M/amp. 22.5/15.
- SAN ANSELMO.—Power, M/amp. 21/16.
- SANDMASTER.—Power, M/amp. 30/1.
- SAN FRANCISCO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 31/10.
- SAN JACINTO.—Fy., strike out 410 (730), 454 (660); power, M/amp. 28/12.
- SAN JOSE.—Fy., strike out 410 (730); power, M/amp. 30/7; hours, N.
- SAN JUAN.—Type, A arc and A2; fy., strike out 137 (2,190), 141 (2,130), add 400 (750); power, M/amp. 31/7.
- SAN LORENZO.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 28/7.
- SAN PEDRO (WDDA).—Type, strike out A1, A2, add B; power, M/amp. 29/8.
- SAN RAFAEL.—Power, M/amp. 25/16.
- SAN SIMEON.—Power, M/amp. 20.6/16.
- SANTA ANA.—Fy., add 375 (800); power, M/amp. 20/2.5.
- SANTA BARBARA.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 31/10.
- SANTA CECELIA.—Power, M/amp. 26/9.
- SANTA MARTA.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
- SANTA TECLA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/5.
- SANTA VERONICA.—Power, M/amp. 22.7/7.
- SAPINERO.—Power, M/amp. 21/20.
- SARAMACCA.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 25/11.
- SATURN.—Type, add A1; power, M/amp. 20/8.
- S. B. COOLIDGE.—Power, M/amp. 12/12; accounts, owner.
- SCHENECTADY.—Fy., strike out 410 (730), 454 (660); power, M/amp. 30/15.
- SCOTTSBURG.—Power, M/amp. 30/16.
- S. C. T. DODD.—Power, M/amp. 23/11.
- SEA KING.—Power, M/amp. 12/2.
- SEA LION.—Power, M/amp. 12/2.
- SEA RANGER.—Power, M/amp. 12/3.

- SEA SALVOR.—Power, M/amp. 13/2.
 SEA SCOUT.—Power, M/amp. 12/3.
 SEATTLE.—Power, M/amp. 20/10.
 SEEANDBEE.—Power, M/amp. 22/13; accounts, owner.
 SENATOR BAILEY.—Power, M/amp. 18.5/3.
 SHAWNEE.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 160 (1,875), 375 (800), 425 (705), 500 (600); power, M/amp. 30/10.
 SHELTON.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 24/10.
 SHENANDOAH.—Power, M/amp. 33.3/14.
 SIBONEY.—Fy., strike out 137 (2,190), 141 (2,130), 410 (730), 454 (660); power, M/amp. 40/20.
 SIDNEY M. HAUPTMAN.—Fy., strike out 410 (730); power, M/amp. 28/7.
 SIERRA (WBDR).—Fy., strike out 137 (2,190); power, M/amp. 20/10 and 5.
 SILVERADO.—Power, M/amp. 25/3.
 SILVEROAK.—Power, M/amp. 23/12; owner, Clegg Ship Owning Corporation.
 SILVERSPRUCE.—Power, M/amp. 23/14.
 SIXAOALA.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.
 SOCONY 94.—Power, M/amp. 20/5.
 SOLITAIRE.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130), add 159 (1,885); power, M/amp. 11/6.
 SONOMA.—Fy., strike out 137 (2,190); power, M/amp. 20/10 and 4.
 SOUTH AMERICAN.—Power, M/amp. 25/6.
 SPRAY.—Type, A1, A2; fy., add 400 (750), 468 (640); power, M/amp. 20/8.
 STANDARD SERVICE.—Fy., add 400 (750), 468 (640); power, M/amp. 13/6.
 STARR.—Power, M/amp. 20/5.
 STEADFAST.—Power, M/amp. 21.6/18.
 STEEL CHEMIST.—Type, A2; fy., 375 (800), 410 (730), 425 (705).
 STEEL ELECTRICIAN.—Fy., strike out 454 (660), add 425 (705); power, M/amp. 13/8.
 STEEL ENGINEER.—Power, M/amp. 30/10.
 STEEL EXPORTER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 26.3/13.
 STEELMAKER.—Fy., add 410 (730); power, M/amp. 30/12.
 STEEL MARINER.—Power, M/amp. 26.6/14.
 STEELMOTOR.—Power, M/amp. 10/3.
 STEEL RANGER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 29/7.5.
 STEEL SCIENTIST.—Power, M/amp. 26/17.
 STEEL SEAFARER.—Type, A1, A2; fy., add 143 (2,100), 151 (1,985), 157 (1,910), 159 (1,885), 160 (1,875).
 STEEL TRADER.—Fy., strike out 410 (730), 454 (660); power, M/amp. 27.2/13.
 STEELVENDOR.—Power, M/amp. 16/3.
 STEEL VOYAGER.—Fy., 375 (800), 400 (750), 410 (730), 425 (705), 454 (660), 468 (640), 500 (600); power, M/amp. 24/15.
 STEPHEN R. JONES.—Power, M/amp. 25/8.
 STUART DOLLAR.—Fy., add 410 (730), 454 (660); power, M/amp. 15/7.5.
 SULPHITE.—Power, M/amp. 12/7; accounts, owner.
 SUNBEAM.—Type, add A1; power, M/amp. 19.8/11.
 SUNDANCE.—Type, add A1; power, M/amp. 30/12.
 SURICHCO.—Name changed to Admiral Wiley; owner, Anglo-California Trust Co. (Inc.).
 SURINAME.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 25/11.
 SWIFTEAGLE.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 160 (1,875), 375 (800), 425 (705), 454 (660), 468 (640), 500 (600).
 SYROS.—Power, M/amp. 20/20.
 TACHIRA.—Type, add A1; power, M/amp. 27/7.
 TACOMA.—Power, M/amp. 20/13.
 TAMIHUA.—Power, M/amp. 20/14; accounts, R. M. C. A.
 TAMPA (WLCM).—Name changed to Western Wave; owner, North American Fruit & S. S. Corporation.
 TANANA.—Power, M/amp. 20/12.
 TERN.—Type, add A1; fy., add 400 (750), 468 (640); power, M/amp. 15/6.
 TEXAN.—Power, M/amp. 18/9.
 TEXAS (WBCH).—Power, M/amp. 28/11.
 TEXMAR.—Type, add A1; power, M/amp. 19.8/12.
 THALASSA.—Power, M/amp. 24.5/2.5.
 THE HARVESTER.—Power, M/amp. 13/5.
 THOMAS H. WHEELER.—Type, add A1; power, M/amp. 28/10.
 TIGER.—Power, M/amp. 24/11.

- TILlicum.—Fy., add 375 (800); power, M/amp. 10/4.
 TILLIE LYKES.—Power, M/amp. 18.5/7.
 TIONESTA.—Power, M/amp. 8/5.
 TIVIVES.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015), power, M/amp. 30/12.
 TOLOA.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875), 375 (800), 400 (750), 410 (730), 425 (705), 454 (660), 468 (640), 500 (600); power, M/amp. 30/12.
 TOMALVA.—Fy., strike out 410 (730), 454 (660); power, M/amp. 33.3/18.
 TOPA TOPA.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 160 (1,875), 375 (800), 425 (705), 500 (600); power, M/amp. 26/8.
 TOPILA.—Power, M/amp. 20/12; accounts, R. M. C. A.
 TORREB.—Power, M/amp. 20/12; accounts, R. M. C. A.
 TRIMOUNTAIN.—Fy., add 454 (660); power, M/amp. 23/15.
 TRINIDADIAN.—Power, M/amp. 25/7.
 TRIPP.—Power, M/amp. 22/9.
 TULSA.—Type, add A1; power, M/amp. 30/12.
 TURRIALBA.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 30/11.
 TUSCALOOSA CITY.—Power, M/amp. 33.3/13.
 TUSTEM.—Type, strike out A arc, add A1, A2; fy., 375 (800), 400 (750), 410 (730), 425 (705), 454 (660), 468 (640), 500 (600); power, M/amp. 30/6.
 T. W. ROBINSON.—Type, A1; fy., add 375 (800).
 TYEE.—Power, M/amp. 19.8/2.
 ULUA.—Fy., 143 (2,100), 151 (1,985), 153 (1,960), 157 (1,910), 159 (1,885), 160 (1,875), 375 (800), 400 (750), 410 (730), 425 (705), 454 (660), 468 (640), 500 (600); power, M/amp. 30/12.
 VELMA LYKES.—Fy., strike out 410 (730), 454 (660); power, M/amp. 19/7.
 VENTURA.—Fy., strike out 125 (2,400); power, M/amp. 22/10 and 4.
 VENUS (WPBI).—Power, M/amp. 16/10.
 VOLUNTEER.—Power, M/amp. 18/14.
 WABAN.—Power, M/amp. 18.6/16.
 WALLINGFORD.—Power, M/amp. 20/4.
 WALLOWA.—Type, A1, A2; power, M/amp. 15/4; service, PG; hours, X; rates, 8 cents per word; accounts, owner.
 WALTER A. LUCKENBACH.—Fy., strike out 125 (2,400), 137 (2,190), 151 (1,985), add 159 (1885); power, M/amp. 30/10 and 13.
 WALTER D. MUNSON.—Power, M/amp. 25.7/7.
 WALTER JENNINGS.—Fy., strike out 410 (750), add 410 (730); power, M/amp. 26/12.
 WALTER MILLER.—Type, add A2; fy., strike out 125 (2,400), 157 (1,910); power, M/amp. 30/5.
 WARBLER.—Power, M/amp. 20/10.
 WASHINGTON (KDCB).—Power, M/amp. 27.5/9.
 WASHINGTON (KIRF).—Power, M/amp. 22/12.
 W. B. FOSHAY.—Owner, Northland Transportation Co. (Inc.).
 W. D. CALVERLEY, JR.—Power, M/amp. 14/10; accounts, owner.
 WEST ALSEK.—Power, M/amp. 27/14.
 WEST AMARGOSA.—Power, M/amp. 35/18.
 WEST CACTUS.—Power, M/amp. 23/16.
 WEST CAMAK.—Power, M/amp. 23/16.
 WEST CAMARGO.—Power, M/amp. 23/14.
 WEST CAPE.—Fy., strike out 410 (730), 454 (660); power, M/amp. 23/10.
 WEST CELINA.—Power, M/amp. 23/14.
 WEST CHATALA.—Power, M/amp. 22/10.
 WEST CHESWALD.—Power, M/amp. 22/8.
 WEST CHETAC.—Power, M/amp. 30/16.
 WEST COHAS.—Fy., add 410 (730); power, M/amp. 18/10.
 WEST CORUM.—Power, M/amp. 65/15.
 WEST CRESSY.—Power, M/amp. 21.6/16.
 WEST DUFFEE.—Power, M/amp. 22.4/10.
 WEST EKONK.—Power, M/amp. 20/14.
 WEST ELDARA.—Power, M/amp. 28/14.
 WESTERN OCEAN.—Fy., add 143 (2,100); 157 (1,910); 160 (1,875); 400 (750); 468 (640); power, M/amp. 24/9.
 WESTERN QUEEN.—Power, M/amp. 17/17.
 WEST GOTOMSKA.—Power, M/amp. 26/15.
 WEST HARCUIVAR.—Power, M/amp. 27.2/14.
 WEST HARDAWAY.—Power, M/amp. 25/10.

- WEST HARSHAW.—Power, M/amp. 22/8.
 WEST HEMATITE.—Power, M/amp. 21/10.
 WEST HIKA.—Power, M/amp. 26/12.
 WEST IRA.—Power, M/amp. 23/10.
 WEST IVIS.—Fy., 454 (660); power, M/amp. 23/16.
 WEST KEENE.—Power, M/amp. 24/17.
 WEST LOQUASSUCK.—Power, M/amp. 27/15.
 WEST MADAKET.—Power, M/amp. 21/10.
 WEST MAXIMUS.—Power, M/amp. 25/15.
 WEST MODUS.—Power, M/amp. 22/15.
 WESTMORELAND.—Power, M/amp. 21.5/15.
 WEST NILUS.—Power, M/amp. 23/9.
 WEST NOTUS.—Fy., strike out 137 (2,190), 141 (2,130); power, M/amp. 20/8.
 WESTPOOL.—Power, M/amp. 26.4/13.
 WEST QUECHEE.—Power, M/amp. 22/12.
 WEST SAGINAW.—Power, M/amp. 28/18.
 WEST TACOOK.—Power, M/amp. 18.5/12.
 WEST TEXAS.—Power, M/amp. 23/6.
 WESTWARD HO.—Power, M/amp. 22/14.
 W. F. WHITE.—Fy., 375 (800), 410 (730), 425 (705), 500 (600); power, M/amp. 13/5.
 W. G. POLLOCK.—Power, M/amp. 16/11; accounts, owner.
 W. H. BECKER.—Power, M/amp. 16/11; accounts, owner.
 WHITNEY OLSON.—Power, M/amp. 25/3.
 W. H. MCGEAN.—Power, M/amp. 16/11; accounts, owner.
 WIDGEON.—Power, M/amp. 20/5.
 WILD GOOSE.—Fy., add 468 (640); power, M/amp. 20/5.
 WILDWOOD.—Type, add A1; power, M/amp. 30/12.
 WILHELMINA.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 20/10.
 WILLIAM A. MCKENNEY.—Type, add A1; fy., add 400 (750), 468 (640); power, M/amp. 27/10.
 WILLIAM A. PAINE.—Power, M/amp. 15/8; accounts, owner.
 WILLIAM A. REISS.—Power, M/amp. 20/10.
 WILLIAM C. ATWATER (WDDL).—Accounts, owner.
 WILLIAM F. HUMPHREY.—Fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 20/8.
 WILLIAM G. MATHER.—Type, A1, A2 and B; accounts, owner.
 WILLIAM GREEN.—Type, add A1; power, M/amp. 27/9.
 WILLIAM H. DOHENY.—Type, add A1; power, M/amp. 33.3/10.
 WILLIAM K. FIELD.—Power, M/amp. 20/15.
 WILLIAM McLAUHLAN.—Power, M/amp. 10/10.
 WILLIAM N. PAGE.—Power, M/amp. 25/8.
 WILLIAM P. SNYDER, Jr.—Type, A1; fy., 375 (800), 410 (730), 425 (705).
 WINDING GULF.—Power, M/amp. 21.5/10.
 WINIFRED.—Power, M/amp. 15.4/5.
 WINONA COUNTY.—Power, M/amp. 30/12.
 WISCONSIN.—Power, M/amp. 24/8.
 W. J. HANNA.—Type, add A1; power, M/amp. 27.2/10.
 WM. A. LYDON.—Type, add A1; fy., strike out 394 (760); power, M/amp. 5/4.
 WM. BOYCE THOMPSON.—Type, add A1; power, M/amp. 25/8.
 WM. G. WARDEN.—Type, add A1; power, M/amp. 29/7.
 WM. ROCKEFELLER.—Type, add A1; fy., strike out 125 (2,400), 137 (2,190), 141 (2,130); power, M/amp. 33.3/7.
 W. M. TUPPER.—Type, add A1; fy., strike out 400 (750), 410 (730), 454 (660); power, M/amp. 24/5.
 W. S. MILLER.—Fy., strike out 454 (660), add 468 (640); power, M/amp. 24/10.
 W. S. RHEEM.—Power, M/amp. 23/11.
 W. W. BRUCE.—Type, add A1; power, M/amp. 30/8.
 W. W. MILLS.—Type, add A1; fy., strike out 468 (640); power, M/amp. 20/8.
 YALE (WSCT).—Power, M/amp. 18/8.
 YARMOUTH.—Fy., strike out 137 (2,190), 141 (2,130), 153 (1,960), add 157 (1,910); power, M/amp. 30/10.
 YORKMAR.—Fy., strike out 410 (730), 454 (660), add 400 (750), 468 (640); power, M/amp. 28/10.
 YOSEMITE.—Power, M/amp. 15/8; accounts, owner.
 YOUNGSTOWN (KIFX).—Power, M/amp. 22/15.
 YOUNGSTOWN (WPBH).—Owner, Interlake S. S. Co.

YUKON.—Power, M/amp. 20/14.

ZACAPA.—Fy., strike out 137 (2,190), 141 (2,130), 145 (2,070), 147 (2,040), 149 (2,015); power, M/amp. 30/12.

ZELDA.—Owner, North Atlantic Trawling Corporation.

Strike out all particulars of the following-named vessels: **CORSAIR**, EDGAR F. **CONEY**, **ERVINA V**, **INTREPID**, **ORMIDALE**.

NOTE.—The meters for the following frequencies, as published heretofore for all stations, should be changed as shown in parentheses following each frequency: 135 (2,222) to 135 (2,220), 141 (2,128) to 141 (2,130), 145 (2,069) to 145 (2,070), 147 (2,041) to 147 (2,040), 149 (2,013) to 149 (2,015), 159 (1,887) to 159 (1,885).

COMMERCIAL LAND AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KDEV, read Gertrude Kellogg; **KDHA**, read Admiral Wiley; **KDPQ**, read Cities Service Ohio; **KGQ**, read Mussel Rock, Calif.; **KIMD**, read Deer Lodge; **KOPZ**, read Portmar; **KTK**, read Mussel Rock, Calif., Radio; **KOQB**, read Losmar; **KUNF**, read Pennmar; **WLCM**, read Western Wave; **WODI**, read Harriet; **WQIO**, read Susan V. Luckenbach; strike out all particulars following the call signals: **KDHD**, **KDHI**, **KFV**, **KGDF**, **KYY**, **WBDL**, **WLCS**.

COMMERCIAL AIRCRAFT STATIONS, ALPHABETICALLY, BY NAMES OF CRAFT

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1929, and to the International List of Aircraft Stations, published by the Berne bureau]

CITY OF TACOMA.—Strike out all particulars.

HAVANA.—Type, A1, A2; fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 3,070 (97.71), 3,106 (96.58).

SAN JUAN.—Type, A1 A2; fy., 333 (900), 375 (800), 414 (725), 457 (655), 500 (600), 3,070 (97.71), 3,106 (96.58).

COMMERCIAL AIRCRAFT STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KIK, strike out all particulars.

BROADCASTING STATIONS, BY CALL SIGNALS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and the International List of Broadcasting Stations published by the Berne bureau]

KFJF (Oklahoma City, Okla.).—Fy., 1,480 (202.7).

KFKX (Chicago, Ill.).—Loc. changed to Bloomingdale Township, Ill. (near Addison); power, 10,000.

KFPL (Dublin, Tex.).—Power, 100.

KFWM (Richmond, Calif.).—Owner, Educational Broadcasting Corporation.

KGFL (Raton, N. Mex.).—Owner, W. E. Whitmore.

KGIR (Butte, Mont.).—Power, 500.

KGU (Honolulu, Hawaii).—Power, 1,000.

KPCB (Seattle, Wash.).—Fy., 1,500 (200).

KPQ (Wenatchee, Wash.).—Fy., 1,500 (200).

KQW (San Jose, Calif.).—Owner, Pacific Agricultural Foundation (Ltd.).

KTAR (Phoenix, Ariz.).—Power, 500 night; 1,000 day.

KUJ (Longview, Wash.).—Power, 100.

KVI (Des Moines, Iowa).—Fy., 760 (395).

KYW (Chicago, Ill.).—Loc. changed to Bloomingdale Township, Ill. (near Addison); power, 10,000.

WAGM (Royal Oak, Mich.).—Owner, Royal Oak Broadcasting Co.

WBRL (Tilton, N. H.).—Strike out all particulars.

WCAZ (Carthage, Ill.).—Owner, Superior Broadcasting Service.

WCHI (Deerfield, Ill.).—Fy., 1,490 (201.3).

WCKY (Crescent Springs, Ky.).—Fy., 1,490 (201.3).

WEPS (Gloucester, Mass.).—Owner, Alfred F. Kleindienst.

WFBE (Cincinnati, Ohio).—Owner, Radio Station WFBE (Inc.).

WGCM (Gulfport, Miss.).—Loc. changed to Mississippi City, Miss.

WHK (Cleveland, Ohio).—Loc. changed to Seven Hills, Ohio.

WHO (Des Moines, Iowa).—Owner, Central Broadcasting Co.

WJAD (Waco, Tex.).—Call changed to WACO.

WJAZ (Mount Prospect, Ill.).—Fy., 1,490 (201.3), power, 5,000.

WKBW (Amherst, N. Y.).—Fy., 1,480 (202.7).

WLAC (Nashville, Tenn.).—Fy., 1,470 (204.1).
 WLEX (Lexington, Mass.).—Fy., 1,410 (218.8).
 WLEY (Lexington, Mass.).—Fy., 1,370 (219), power, 100.
 WMAF (South Dartmouth, Mass.).—Fy., 1,410 (212.8).
 WMBO (Auburn, N. Y.).—Fy., 1,310 (229).
 WOAN (Lawrenceburg, Tenn.).—Owner, WREC (Inc.).
 WOC (Davenport, Iowa).—Owner, Central Broadcasting Co.
 WOR (Kearney, N. J.).—Owner, Bamberger Broadcasting Service (Inc.).
 WORD (Batavia, Ill.).—Fy., 1,490 (201.3).
 WSSH (Boston, Mass.).—Fy., 1,410 (212.8).

GOVERNMENT LAND STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alteration and correction to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Fixed and Land Stations, published by the Berne Bureau]

BRYAN, OHIO.—Fy., strike out 294 (1,020); add 321 (935).
 FORT WORTH, TEX.—Fy., add 350 (855).
 KANSAS CITY, MO. (KRC).—Fy., strike out 321 (935); add 344 (870).
 KEY WEST, FLA. (WBP).—Fy., add 344 (870).
 LOS ANGELES, CALIF.—Read Glendale (Los Angeles), Calif.
 MOLINE, ILL.—Strike out all particulars.
 NORTH PLATTE, NEBR.—Fy., strike out 344 (870); add 285 (1,055).
 ST. LOUIS, MO. (KCQ).—Fy., strike out 338 (890); add 290 (1,034).
 SALT LAKE CITY, UTAH.—Fy., strike out 327 (915); add 292 (1,025).
 WICHITA, KANS.—Fy., strike out 344 (870); add 321 (935).

GOVERNMENT SHIP STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Ship Stations, published by the Berne Bureau]

CASE.—Correct call to read NUNX (U. S. L., p. 141).
 RENSRAW (NURG).—Correct name to read Rigel (U. S. L., p. 147).
 PUEBLO.—Strike out all particulars.

GOVERNMENT, RADIOBEACON, RADIO-COMPASS, LAND, AND SHIP STATIONS, ALPHABETICALLY, BY CALL SIGNALS

KCT, read Glendale (Los Angeles), Calif.; strike out all particulars following the call signals NAJS, WNI.

MARINE RADIOBEACON STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Stations Performing Special Services, published by the Berne Bureau]

AMBROSE CHANNEL LIGHTSHIP, N. J.—Hours operating periods changed to the second 15 minutes of each hour.
 GALVESTON JETTY LIGHT STATION, TEX.—Hours operating periods changed to 12 to 12.30, 3 to 3.30, 6 to 6.30 and 9 to 9.30 a. m. and p. m. daily in clear weather, ninetieth meridian time.
 SABINE PASS LIGHT STATION TEX.—Hours, operating periods changed to 1.30 to 2, 4.30 to 5, 7.30 to 8, and 10.30 to 11 a. m. and p. m. daily in clear weather, ninetieth meridian time.
 SAND ISLAND LIGHT STATION, ALA.—Operating periods changed to 2 to 2.30, to 5.30, 8 to 8.30, and 11 to 11.30 a. m. and p. m., daily in clear weather, ninetieth meridian time.

AIRWAY RADIOBEACON STATIONS

[Alterations and corrections to be made to the List of Commercial and Government Radio Stations of the United States, edition of June 30, 1929, and to the International List of Stations Performing Special Services, published by the Berne Bureau]

BOSTON, MASS.—Type, A2; fy., 321 (935); characteristic, N and A (— . and . — . and . —) North and northwest quadrants have a characteristic starting with a dash; hours, operates in accordance with regular flying schedules and upon request.
 NEW BRUNSWICK, N. J. (HADLEY FIELD).—Type, A2; characteristic, N and A (— . and . —) North and northwest quadrants have a characteristic starting with a dash.

EXPERIMENTAL STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1929]

CALIFORNIA:

- Los Angeles (W6XAV).—Strike out all particulars.
- Los Angeles (W6XBC).—Strike out all particulars.
- Palo Alto (W6XAU).—Strike out all particulars.
- San Francisco (W6XT).—Strike out all particulars.
- Wilmington (W6XAE).—Strike out all particulars.

CONNECTICUT: Hartford (W1XG).—Strike out all particulars.

MARYLAND: Hyattsville (W3XR).—Strike out all particulars.

NEW JERSEY: Newark (W2XY).—Fy., 1,608 (186.57), 2,326 (128.97), 3,484 (86.10), 5,600 (53.57), 6,335 (47.35).

NEW YORK: Rocky Point (W2XBC).—Strike out all particulars.

WEST VIRGINIA: Morgantown (W8XAW).—Change from stationary to portable station.

Portable

CALIFORNIA (W6XAS).—Strike out all particulars.

SIXTH RADIO DISTRICT (W6XD).—Strike out all particulars.

OREGON: Cedar Mills (W7XA).—Strike out all particulars.

Aircraft

NC-5192 (W4XN).—Strike out all particulars.

RELAY BROADCASTING STATIONS, ALPHABETICALLY, BY NAMES OF STATIONS

[Alterations and corrections to be made to the List of Radio Stations of the United States, edition of June 30, 1929]

NEW HAMPSHIRE: Tilton (W1XY).—Strike out all particulars.

MISCELLANEOUS

LIST OF VESSELS EQUIPPED WITH A RADIO COMPASS

The following-named vessels are additions to the lists published in Commercial and Government Radio Stations of the United States, edition June 30, 1929, and the International List of Ships Stations published by the Berne Bureau:

Name	Call signal	Owner	Name	Call signal	Owner
COMMERCIAL			COMMERCIAL		
A. D. Macbeth	KDXN	Buckeye S. S. Co.	Hagood	KOQD	Cities Service Transportation Co.
Admiral Evans	WGCB	Pacific S. S. Co.	James Griffiths	KUTK	Coastwise S. S. & Barge Co.
Alaskan	WACW	American-Hawaiian S. S. Co.	Mary Luckenbach	KDLX	Luckenbach S. S. Co.
Algonquin	KGDL	Cherokee - Seminole S. S. Corp.	Pioneer	KFMK	Cleveland Cliffs S. S. Co.
Ann Arbor No. 3.	WDCN	Ann Arbor R. R. Co.	Pontiac	KFML	Do.
Ann Arbor No. 4.	WDCO	Do.	Robert J. Paisley	KFNT	Schneider S. S. Co.
Ann Arbor No. 7.	WDCK	Do.	Silveroak	KOJG	Clegg Ship Owning Corporation.
Beaconlight	KUTX	National Bank of Commerce in New York.	Silverspruce	KIGZ	Do.
Catherine D.	KMAI	Pacific American Fisheries.	Walter Miller	KDD8	Continental S. S. Co.
Chickasaw	KOJR	American Scantic Line (Inc.)	Western Ocean	WICA	North American Fruit & S. S. Corporation.
Cletus Schneider	KMEG	Schneider S. S. Co.	Yosemite	WDDT	Fontana S. S. Co.
Colonel	WDD8	Fontana S. S. Co.			
E. J. Nicklos	KDAV	Continental S. S. Co.			

The radio compass has been removed from the vessels, Oregon (KUTD) and W. J. Hanna (KDKX).

Transmission of weather forecasts and navigational warnings by Canadian coast stations

Radiotelegraph stations		Call letters	Information transmitted	Broadcasting time (E. S. T.)	Origin of information	
Location	Transmitting wave				Compiled by—	Distributed by—
Montreal	600 ICW	VCA	Weather forecasts.	11 a. m. and p. m.	Canadian Meteorological Service, Toronto, Ont.	Superintendent Signal Service, Quebec, P. Q.
Quebec	600 ICW	VCC	a. Weather forecasts. b. Reports re- specting dangers to navigation in the River St. Lawrence.	11.10 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Agent Depart- ment Marine, Quebec, P. Q., and superintendent Signal Service, Quebec, P. Q.	
Father Point	600 ICW	VCF	a. Weather forecasts. b. Reports re- specting dangers to navigation in (1) the River St. Lawrence, and (2) Gulf of St. Lawrence.	11.20 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. (1) Agent Depart- ment Marine, Quebec, (2) Agent Department Marine, Charlotte- town, P. E. I., and superintendent Signal Service, Quebec, P. Q.	Do.
Fame Point 1	600 ICW	VCG	a. Weather forecasts. b. Ice reports. c. Reports respecting dangers to navigation in (1) the Gulf of St. Lawrence and Straits of Belle Isle.	11.30 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Superintendent Signal Service, Quebec, P. Q. c. (1) Agent Department Marine, Quebec, P. Q. Charlottetown, P. E. I., and Halifax, N. S., super- intendent Signal Service, Que- bec, P. Q.	Do.
Belle Isle 2	600 ICW	VCM	a. Weather reports. b. Ice reports. c. Reports respecting dangers to navigation in the Gulf of St. Law- rence and Straits of Belle Isle.	11.40 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Officer in charge, Belle Isle. c. Agent Department Marine, Charlottetown, P. E. I., and Halifax, N. S., superintendent Signal Service, Quebec, P. Q.	Do.
Gulf of St. Lawrence— Ice Patrol.	600 ICW or spark ICW. 1,621	VCQP	Reports respecting ice conditions.	8 a. m. and p. m. (1), 8.30 a. m. and p. m. (2).	Ice Patrol vessel.	Ice Patrol vessel.
Cape Race	600 spark	VCE	a. Weather reports. b. Ice reports. c. Reports respecting dangers to navigation (1) in the Gulf of St. Lawrence, and (2) Nova Scotia and Newfoundland coasts and North Atlantic.	11.20 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Ice Patrol ves- sel, agent Department Marine, Halifax, N. S., and superintendent Signal Service, Quebec, P. Q. c. (1) Agent Department Marine, Charlottetown, P. E. I., (2) Su- perintendent Signal Service, Que- bec, P. Q.	Ice Patrol vessel, radio officer Department Marine, Halifax, N. S., and superinten- dent Signal Service, Quebec, P. Q.

Radio officer, Department Marine, Halifax, N. S.
Do.

Do.

Louisburg	2,804 CW	VAS	a. Weather forecasts. b. Ice reports.	11 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Ice Patrol vessel, superintendent Signal Service, Quebec, P. Q.
Sambro Lightship	434.8 radiotelephone	VAS	a. Weather forecasts. b. Special message containing information of interest to fishermen.	3 a. m. and 12 noon	a. Canadian Meteorological Service, Toronto, Ont. b. Fishery Inspector, Halifax, N. S.
Chabucto Head, N. S.	434.8 radiotelephone	VOCX	a. Weather forecasts. b. Special message containing information of interest to fishermen.	7 a. m. and 12.30 p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Fishery Inspector, Halifax, N. S.
	600 ICW	VAV	a. Weather reports. b. Reports respecting dangers to navigation (1) in the Bay of Fundy, (2) Nova Scotia and Newfoundland coasts and North Atlantic.	11.40 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. (1) Agent Department Marine, St. John, N. B., (2) agents Department Marine, St. John, N. B., Charlottetown, P. E. I., Halifax, N. S. and superintendent Signal Service, Quebec, P. Q.
Yarmouth, N. S.	600 ICW	VAU	a. Weather reports. b. Reports respecting dangers to navigation (1) in the Bay of Fundy and (2) Nova Scotia and Newfoundland coasts and North Atlantic.	11.30 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Agent Department Marine, St. John, N. B. (2) agents Department Marine, St. John, N. B., Charlottetown, P. E. I., Halifax, N. S., and superintendent Signal Service, Quebec, P. Q.
St. Johns, N. B.	337.1 radiotelephone	CFBO	Weather forecasts	5 and 7 a. m.	Canadian Meteorological Service, Toronto, Ont.
Red Head, near St. John, N. B.	600 ICW	VAR	a. Weather forecasts. b. Reports respecting dangers to navigation in the Bay of Fundy	11 a. m. and p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Agent Department Marine, St. John, N. B.
C. G. S. Arras ¹	434.8 radiotelephone	CGFD	a. Storm warnings, if any. b. Weather forecasts. c. Special message containing information of interest to fishermen as broadcast by Louisburg (VAS) at 12 noon (E. S. T.).	a. 6 a. m. b. 1 p. m. c. 1 p. m. d. 1 p. m.	a. Canadian Meteorological Service, Toronto, Ont. b. Fishery Inspector, Halifax, N. S.

¹ The station is open during the season of navigation.
² Maintains limited hours of watch during the season of closed navigation.
³ North Sydney, Grindstone Island, and Chabucto Head will pass copy of this message to ships requesting it.
⁴ Seasonal only; accompanies fishing fleet in summer.

RESTRICTIONS EFFECTIVE JANUARY 1, 1930, GOVERNING THE USE OF CERTAIN
FREQUENCIES AND SPARK TRANSMITTERS

The attention of radio companies, shipowners, and all others concerned is invited to the following provisions of the International Radiotelegraph Convention, Washington, 1927:

1. No new transmitting installations using type B waves shall be made in mobile stations beginning January 1, 1930, except when these transmitters working on full power shall dissipate less than 300 watts measured at the input of the supply transformer at audible frequency (art. 5, par. 8, subpar. 2, and art. 16, par. 1, subpar. 2).
2. The use of waves of type B of a frequency below 375 kilocycles (wave length above 800 meters) is forbidden beginning January 1, 1930, subject to provisions of paragraph 1 of article 5, and except for existing land stations (art. 5, par. 8, subpar. 1).
3. Mobile stations must be established in such a manner as to conform, with reference to frequencies and types of waves, to the general provisions constituting the subject matter of article 5. In accordance with these provisions, the use, by mobile stations, of damped waves (type B), of a frequency below 375 kilocycles (wave length above 800 meters) is forbidden beginning January 1, 1930 (art. 16, par. 1, subpar. 1).
4. The use of the wave of type B of 1,000 kilocycles (300 meters) for traffic shall be forbidden, at all hours, beginning January 1, 1930, at the latest. However, this same wave of type B of 1,000 kilocycles (300 meters) can be continued in use indefinitely, and without restriction as to hours, by stations on board fishing vessels, for radio compass bearings between themselves, provided they do not interfere with broadcasting (art. 16, par. 3, subpar. 4).

NEW INTERNATIONAL LIST OF FREQUENCIES OF RADIO STATIONS

The International Bureau of the Telegraph Union, Radiotelegraph Service, Berne, Switzerland, contemplates issuing within the near future such a list. The price will be 32 francs, Swiss gold (about \$6.18), including supplements to the end of the current year and postage. All remittances should be forwarded direct to the Berne Bureau.

MAP OF RADIOTELEGRAPH STATIONS

The International Bureau of the Telegraph Union, Radiotelegraph Service, Berne, Switzerland, now has available for distribution such a map. The price is 2 francs, 10 centimes, Swiss gold (about 41 cents), including postage. All remittances should be forwarded direct to the Berne Bureau.

BOLIVIA AND PERSIA RATIFY THE INTERNATIONAL RADIOTELEGRAPH CONVENTION

These countries deposited their ratifications of the International Radiotelegraph Convention with the Department of State, on January 25 and February 7, 1930, respectively.

AN ACT TO REQUIRE APPARATUS AND OPERATORS FOR RADIO COMMUNICATION ON
CERTAIN OCEAN STEAMERS, APPROVED JUNE 24, 1910, AS AMENDED JULY 23, 1912¹

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. That from and after October first, nineteen hundred and twelve, it shall be unlawful for any steamer of the United States or of any foreign country navigating the ocean or the Great Lakes and licensed to carry, or carrying, fifty or more persons, including passengers or crew or both, to leave or attempt to leave any port of the United States unless such steamer shall be equipped with an efficient apparatus for radio communication, in good working order, capable of transmitting and receiving messages over a distance of at least one hundred miles, day or night. An auxiliary power supply, independent of the vessel's main electric power plant, must be provided which will enable the sending set for at least four hours to send messages over a distance of at least one hundred miles, day or night, and efficient communication between the operator in the radio room and the bridge shall be maintained at all times.

The radio equipment must be in charge of two or more persons skilled in the use of such apparatus, one or other of whom shall be on duty at all times while the vessel is being navigated. Such equipment, operators, the regulation of their watches, and the transmission and receipt of messages, except as may be regulated by law or international agreement, shall be under the control of the master, in the case of a vessel of the United States, and every willful failure on the part of the master to enforce at sea the provisions of this paragraph as to equipment, operators, and watches shall subject him to a penalty of one hundred dollars.

That the provisions of this section shall not apply to steamers plying between ports, or places, less than two hundred miles apart.

SEC. 2. That this Act, so far as it relates to the Great Lakes, shall take effect on and after April first, nineteen hundred and thirteen, and so far as it relates to ocean cargo steamers shall take effect on and after July first, nineteen hundred and thirteen: *Provided*, That on cargo steamers, in lieu of the second operator provided for in this Act, there may be substituted a member of the crew or other person who shall be duly certified and entered in the ship's log as competent to receive and understand distress calls or other usual calls indicating danger, and to aid in maintaining a constant wireless watch so far as required for the safety of life.

The remaining sections of the act of June 24, 1910, which are unchanged, read as follows:

SEC. 2. That for the purpose of this Act apparatus for radio communication shall not be deemed to be efficient unless the company installing it shall contract in writing to exchange, and shall, in fact, exchange

¹ The amended act applies to vessels licensed to carry as well as those actually carrying 50 or more persons, etc. This act of 1910 as amended in 1912 was not repealed by the radio act of 1927, approved Feb. 23.

as far as may be physically practicable, to be determined by the master of the vessel, messages with shore or ship stations using other systems of radio communication.

SEC. 3. That the master or other person being in charge of any such vessel which leaves or attempts to leave any port of the United States in violation of any of the provisions of this Act shall, upon conviction, be fined in a sum not more than five thousand dollars, and any such fine shall be a lien upon such vessel, and such vessel may be libeled therefor in any district court of the United States within the jurisdiction of which such vessel shall arrive or depart, and the leaving or attempting to leave each and every port of the United States shall constitute a separate offense.

SEC. 4. That the Secretary of Commerce shall make such regulations as may be necessary to secure the proper execution of this Act by collectors of customs and other officers of the Government.

LOST COMMERCIAL RADIO OPERATORS' LICENSES

Hereunder is a list of radio operators' licenses which have been reported to this office as having been lost. Should any of them be found, they should be returned to this office for cancellation. Supervisors and others concerned should see that lost licenses are not being used by unauthorized persons.

Name	Class	No.	Date issued	Where issued
Allen, Lloyd	First	5221	July 2, 1929	New York.
Beck, Niel Jessen	do	1244	Sept. 20, 1927	Do.
Brown, Herbert Roy	do	3752	Feb. 15, 1928	Seattle.
Cary, Edwin A.	Second	1652	June 1, 1928	Chicago.
Coover, Neil D.	do	2686	June 19, 1929	Detroit.
Coushaine, Robert	do	1380	Apr. 16, 1928	Do.
Davis, David	do	642	July 24, 1929	New York.
Evans, William Courtney	First	1560	Dec. 12, 1927	Philadelphia.
Flash, G. W.	do	1031	July 8, 1927	New York.
Gow, Amil Emil	do	16982	May 14, 1926	Do.
Greiner, Herman	do	3170	Apr. 3, 1928	San Francisco.
Gullette, David P.	Second	727	Apr. 27, 1928	Philadelphia.
Harvey, Winfred M.	do	4903	Nov. 25, 1929	Seattle.
Herider, Ernest D.	Broadcast	909	Apr. 25, 1929	Chicago.
Herlihy, William J.	First	798	Sept. 15, 1921	New York.
Hollinger, Henry	do	4829	June 1, 1928	Seattle.
Hoover, John Francis	do	3390	July 26, 1928	San Francisco.
Huntley, Charles	do	4813	May 2, 1928	Seattle.
Johnson, Claude Logan	do	4464	Nov. 7, 1927	New York.
Jordan, Jacob	Broadcast	706	Sept. 5, 1929	Seattle.
Kerrick, Gleason W.	First	1721	June 12, 1928	Philadelphia.
Laurents, Granville C.	Second	1620	May 20, 1929	New Orleans.
Lee, Robert E.	First	1816	Apr. 20, 1927	Atlanta.
Lithgow, Raymond L.	do	3277	May 31, 1928	San Francisco.
Maline, Edward Harold	Second	3910	Mar. 25, 1929	Los Angeles.
McCarter, Thomas J.	First	2250	Sept. 24, 1927	New Orleans.
McGinnis, Edwin Weber	Second	3987	Oct. 1, 1929	Los Angeles.
Oldaker, John O.	First	3317	June 18, 1928	San Francisco.
Perry, George E.	do	3258	May 22, 1928	Do.
Platt, Paul T.	do	5275	July 23, 1928	New York.
Radford, James V.	do	5625	July 16, 1926	New Orleans.
Reilly, Michael J.	Second	1639	Nov. 18, 1929	Do.
Renning, Allen A.	First	2549	June 16, 1927	San Francisco.
Rooney, Edward J. J.	do	5139	June 2, 1928	New York.
Rose, Fred H.	do	8565	Dec. 28, 1928	Do.
Rupprecht, Louis R.	Second	3307	Oct. 25, 1929	Chicago.
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APPLYING THE VISUAL DOUBLE MODULATION TYPE RADIO RANGE TO THE AIRWAYS

A paper of the above title, by H. Diamond, was published in the February issue of the Bureau of Standards Journal of Research. This paper deals with the methods which can be used for changing the angles between the courses worked out by radio range beacons and thereby obtaining alignment of the courses with the actual airways converging upon the airport where the radio range beacon is installed. A mathematical analysis is made of each method employed, and the amount of angular variation possible is tabulated. Sample calculations are made for actual airway routes to demonstrate the several methods. A number of circuit arrangements are described by which a single visual type radio range beacon may serve two, three, or four courses radiating from a given airport at arbitrary angles with each other.

Further details are given in the paper, which will also be available separately as Bureau of Standards Research Paper No. 148, obtainable by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C. The price has not been determined at this time.

IMPROVEMENT OF RADIO MEASUREMENT METHODS

The Bureau of Standards carries on work in the study and improvement of radio measurement methods and the application of these measurement methods to technical problems. In this connection, active work has been in progress recently on measurement of the radio-frequency properties of insulating materials and on the characteristics of radio receivers.

At the request of another Government department, a study of radio properties of mica was started. This includes among other properties the measurement of the phase difference, which is a measure of power loss in the material. This power loss is extremely small in mica. These measurements require the determination of very small changes in current, and interference from external sources may completely mask the effect which is looked for. To eliminate such interference a room completely inclosed with special copper screening has been built inside one of the rooms of the radio building. This shielded room makes it possible to carry on these and other very delicate measurements without any electrical disturbance.

In order to assist other Government departments in the preparation of specifications for the purchase of radio receivers, and in the testing of radio receivers of different types, the bureau has installed equipment for making sensitivity, selectivity, and fidelity measurements at all frequencies from 15 to 4,000 kilocycles. By the use of this equipment, tests are made throughout this frequency range which are similar to the tests outlined for broadcast receiving sets by the Institute of Radio Engineers.

There have been no publications on these lines of work, and none are planned as yet. When publications are prepared and issued they will be announced in these columns.

IMPROVEMENTS IN VISUAL INDICATOR FOR AIRCRAFT RADIOBEACON

As a result of intensive research work on the tuned-reed course indicator developed by the Bureau of Standards for use with the directive radiobeacon system, an improved design has been developed of approximately twice the sensitivity of those used hitherto. This gain resulted from improvements in design of the permanent magnet used for polarizing the reed.

A test flight using this reed indicator showed that the useful distance range of the visual-type range beacon was increased to about 250 miles, as compared with 175 miles previously. The airplane passed directly over the radiobeacon tower at Hadley Field (transmitting aural signals on a frequency separated by 60 kilocycles from that at College Park), 170 miles distant from College Park, Md., without effect on the reed deflections. The sharpness of the beacon course at Hadley Field was $\pm 2\frac{1}{2}$ miles; this is slightly better than $\pm 1^\circ$.

Further increases in the sensitivity of the reed indicator are expected from the use of a nickel-steel alloy for the reed material having greater magnetic permeability than elinvar, the previously used material. Metallurgical experiments are in progress to determine whether this alloy can be made with suitable properties, particularly zero temperature coefficient of elasticity, which is necessary to avoid errors due to temperature changes.

The increase in sensitivity of the reed indicator is of immediate practical importance, since it extends the useful distance range of the beacon, reduces the effect of interference for a given distance range, and considerably simplifies the filter circuit problem in the simultaneous reception of radiotelephone and radiobeacon signals transmitted on the same carrier frequency.

Increase in sensitivity of the reed indicator has still another advantage. The number of reed frequencies available for directive radiobeacon service was previously limited to the range 65 to 120 cycles. The lower limit is set by the audio-frequency characteristics of aircraft receiving sets, and the upper limit by the reed sensitivity. With increased sensitivity, the upper limit may be advanced to about 150 cycles. This permits the use of at least eight reed frequencies, with sufficient separation between them to prevent beating effects. It therefore becomes possible to use four separate sets of modulation frequencies with the double-modulation or four-course beacons, and two sets with the triple-modulation or 12-course beacons. The use of different sets of modulation frequencies by near-by beacon stations will render very simple the problem of discrimination between different beacons. It will also reduce the total width of band of radio-frequencies required for operation of a given number of beacons.